The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 710.---Vol. XIX.] LONDON, SATURDAY, MARCH 31, 1849. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

IN THE CONSOLIDATED CAUSES OF

CRAZE AND OTHERS v. *FEGAN.*

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned consolidated causes, and bearing date the 9th day of February last, Order and Decree that a SALE be made of the ORES and HALVANS, and (if necessary) the ENGINES, MACHINERY, and MATERIALS upon and belonging to WHEAL CURTIS MINE, in the parish of CROWAN, within the said Stannaries, under the direction of the Registrar of the Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the same Order or Decree.

Notice is hereby given, that, pursuant to the said Order or Decree, and with the consent and approval of William Brougham, Esq., the Master charged with the winding-up of the affairs of the Wheal Curtis Copper Mining Company, a PUBLIC AUCTION will be HELD at WHEAL CURTIS MINE aforesaid, on Friday, the 13th day of April next, and following day, at Eleven o'clock in the forenoon of each day, for SELLING, either together or in lots, the under-mentioned

MINING MACHINERY AND MATERIALS—viz.:

1 70-inch cylinder STEAM-ENGINE, complete, 10-feet stroke in cylinder, 8-feet in shaft, with two boilers, about 32 tons.

29	16-inch pumps	110	Fathoms of ladders
15	11-inch ditto	2	Balance-bobs
5	15-inch ditto	26	Rod-plates
5	9-inch ditto	1	Capstan and rope
1	Top-doorpiece	2	Shears
2	15-inch working barrels	4	Horse-whims & shaft tackle, complete
1	12-inch plunger case, stuffing-box, and gland		Wood air-pipes
		2	Pieces 14-inch rods, 45 feet each
2	16 and 1 12-inch plunger-pole	3	10-inch rods, 35 feet each
	Staples and glands	1	Wood cistern
1	12-inch working piece, & 2 8-inch do.		Beam and axle of capstan
2	8-inch doorpieces		Cat-head capstan and rope, complete
1	16-inch kneepiece	1	Iron tube
2	15-inch doorpieces and clack	2	Wood sheds, with floors
1	10-inch top-doorpiece	3	Hutches
4	Matching pieces	100	Fathoms wood flat-rods, stands, &c.
4	15-inch windbores		Screw plates and taps
1	17-inch ditto		Pump rings
1	8-inch ditto		Glands and staples

Grinding stone, 17 sieves, a large set of blocks, 2 smiths' bellows, 1 anvil, 1 vice, 1 scales boxes and clacks, about 9 cwts. of lead ore, 2 cwts. powder, 5½ cwts. weights, a quantity, of old junk, wheelbarrows and handbarrows, new and old iron, new and old timber, iron kibbles, mandrill, a lot of carpenters', smiths', and miners' tools, COUNTING-HOUSE FURNITURE, together with a large quantity and great variety of other materials in general use in mines.

For viewing the same, application may be made to Mr. Morriss, at the mine; Captain Evans, St. Agnes; and for further particulars (if by letter, pre-paid) to Messrs. Wright, Smith, and Shepherd, 15, Golden-square, London; or Mr. Roberts, Truro, solicitors; or to Mr. Stokes, solicitor, Truro.

Dated Registrar's Office, Truro, March 21, 1849.

GLAMORGANSHIRE.—FREEHOLD FARMS AND MINERALS.

MESSRS. MORRIS & SON WILL SELL, BY AUCTION, at the CARDIFF ARMS INN, CARDIFF, on Saturday, the 7th of April, 1849, at Two o'clock afternoon (unless disposed of by private contract in the mean time, of which due notice will be given), subject to such conditions as will be then and there produced,

LOT I.

All that valuable FREEHOLD FARM and LANDS, called GWAIN GLEDAR ISSA, situate in the parish of EGLWYSILAN, in the county of GLAMORGAN, and containing, by admeasurement, 87A. 2R. 36P., or thereabouts; together with all the MINES and MINERALS thereunder. The farm is now in the occupation of Mr. John Edmunds, under lease, whereof twenty-eight years are unexpired from the 2d of February, 1849, at the very low rent of £35 per annum, and adjoins the Aber Estate and the Lands of Sir Chas. Morgan, Bart., —— Goodrich, Esq., and others.

LOT II.

All that valuable FREEHOLD FARM and LANDS, called TYR CLWYD, situate in the said parish of EGLWYSILAN, and containing, by admeasurement, 84A. 1R. 13P., or thereabouts; together with all MINES and MINERALS thereunder. The Farm is now in the occupation of Mr. Edward Edmunds, as yearly tenant, at the rent of £55 per annum, and adjoins Mynydd Mayo, and lands of Lord Dynevor, Lord Plymouth, Mr. Edmunds, the Principal and Fellows of Jesus College, Oxford, and others.

The celebrated Maesmawr or Llantwitt veins, which produce the most valuable bituminous coal in South Wales, have been worked extensively within a mile of the above farms, which are situate about nine miles from the port of Cardiff, about three-fourths of a mile from the Glamorganshire Canal, and one mile and a half from Caerphilly.

The respective tenants will show the lots.

Apply to John Bevan, Esq., Cowbridge; or to Mr. Lewis Thomas, solicitor, Swansea, who will produce the plans of the estate, and give any further particulars, and of whom particulars and conditions of sale may be had.

VALUABLE MINING MATERIALS FOR SALE.

MR. GEORGE SEALY has received instructions to OFFER FOR SALE, BY AUCTION, on Monday, the 9th of April next, at GWINEAR CONSOLS, in the parish of GWINEAR, the whole of the

MINING MATERIALS

thereon—consisting of ONE 36-inch cylinder ENGINE, with boiler, 9 tons.

A balance-bob, capstan and shears, 13 9-feet 10-inch pumps, 1 7-feet ditto, 1 12-feet 9-inch working piece, 1 9-feet 9-inch ditto, 1 10-inch doorpiece, 1 9-inch ditto, 3 10-feet 10-inch windbores, 6 9-feet 8-inch pumps, 10 9-feet 5-inch ditto, 3 6-feet 5-inch ditto, 1 4-feet 8-inch ditto, 1 6-inch H-piece, 1 6-inch top-doorpiece, 1 6-inch windbore, 1 6-inch plunger-pole, pole-case, stuffing-box and gland, complete, 48 fathoms 9-inch rods, with strapping-plates and rod-pins, complete, 12 fathoms of 6-inch ditto, pump-rods, joints, prongs, pump rings, flanch-pins, staples and glands, and sundry other useful iron work, 3 horse-whims, with shaft tackle, pulleys and stands, a quantity of 7-16 and ½-inch chains, whim and winze kibbles, 2 large treble blocks, several fathoms of ladders, beam scales and stand, brass weights, from 56 lbs. to ¼ drachm, formerly the standard weights of the Corporation of Marazion, a 42-inch smiths' bellows, anvil, vice, mandril, smiths' horse, smiths' and miners' tools, screw stock and screw tools, a quantity of useful plank and other timber, sheds, barrows, knives, and a variety of other mining materials.

Gwinear Consols is situated three miles from the port of Hayle.

The sale to commence at Eleven o'clock.—The whole to be sold without reserve.

Marazion, March 27, 1849.

SALE POSTPONED.

VAUXHALL FOUNDRY LIVERPOOL—TO CLOSE A PARTNERSHIP.

TO BE SOLD, BY AUCTION, WITHOUT RESERVE, on Tuesday, the 1st May next (and not on the 2d of April, as previously advertised) at Twelve o'clock precisely, at the Clarendon Rooms, South John-street, Liverpool, unless previously disposed of by private contract, all that valuable PROPERTY, known by the name of THE VAUXHALL FOUNDRY, situate in Vauxhall-road, LIVERPOOL.

The PROPERTY consists of 8500 square yards of LAND, of which about 5500 yards are freehold of inheritance, and the remainder leasehold, at a ground rent of £153 8s. 4d., per annum, under a lease for 75 years, of which 59 years are unexpired, with the several BUILDINGS and ERECTIONS thereon, suitable for carrying on the business of engineers and ironfounders, in all its branches, consisting of extensive foundries, smithies, fitting and erecting shops, planing machines, houses, offices, &c.

The MACHINERY is all of modern construction, and by eminent makers, and consists of upwards of 50 turning lathes, 15 planing machines boring, drilling, screwing, and slotting machines, besides every requisite for making the largest description of engines and other machines.

The MODELS are of the most extensive character, comprising those for marine engines from 10 to 600-horse power, stationary and locomotive engines, water-wheels, sugar, rice, coffee, and saw-mills, of every description, and upwards of 1000 wheel patterns, suitable for millwork.

If not disposed of as a whole, the property will be sold in lots, commencing with the lands and buildings.

Further particulars, with plans of the property, may be obtained, and catalogues of the machinery seen, on application to the owners, on the premises; or to Messrs. Laces, Myers, Rigge, and Roscoe, solicitors, Castle-street, Liverpool.

GLAMORGANSHIRE—COAL, IRONSTONE, AND FIRE-CLAY TO BE LET.

TO BE LET, FOR A TERM, the whole of the valuable VEINS of COAL, IRONSTONE, and FIRE-CLAY, lying under the

TRECASTLE ESTATE,

Situate near Lanharry, Glamorganshire, about 10 miles from Cardiff, and about 16 from Porth Cawl and Port Talbot.

Nearly 300 acres of the estate contain all the principal VEINS of COAL and IRONSTONE due to the lower series of measures in the Great Mineral Basin of South Wales; and as the property is bounded for some distance on the north by the South Wales Railway, great facilities will shortly be afforded for communicating with the different ports on the coast. Several of the veins of coal having been, many years ago, partially worked on the estate, near the outcrop, for the supply of the neighbourhood, are known to be of a highly bituminous quality. The large coal is well adapted for exportation and domestic use, and the small for general manufacturing purposes. It produces coke of fine quality, calculated either for locomotive engines or iron smelting.

The ironstone is in great abundance, and the estate possesses very eligible sites for the erection of blast-furnaces for smelting the same. There is also a very large supply of TIMBER and PITWOOD growing on the property—any quantity of which may be had at a valuation; and there is also a constant supply of water.

For further particulars, and to treat for the same, apply to Mr. Lewis, solicitor, Bridgend, Glamorgan.

VALUABLE SLATE QUARRY, in CARNARVONSHIRE.—TO BE LET, for such term, and on such conditions, as may be agreed upon, the RIGHT of WORKING a valuable ROCK of SLATE, on the BLAENY-CWM-FRIDD, in the parish of PENMACHNE, upon which a large sum of money has been expended in driving a level, and in other works. The metal of this rock has been proved to be equal to that of the finest Festiniog Quarries, which lie in the vicinity. The undertaking would suit a joint-stock company or a private speculator, as it can now be brought into early and extensive work, at a comparatively small outlay.

For particulars apply to Francis Hallowes, Esq., National Provincial Bank, Dolgelly; and to view the quarries, to Mr. Humphrey Williams, Blaeny-cwm Farm, Penmachne.

FLINTSHIRE.

TO BE SOLD, BY PRIVATE TREATY, the following VALUABLE PROPERTY—by order of trustees:—

Lot 1.—ONE UNDIVIDED MOIETY, or HALF PART, or SHARE, of and in all that FREEHOLD FARM and LANDS, with a good HOUSE and suitable OUTBUILDINGS thereon, called NORTHOP HALL, in the parish of NORTHOP, in the county of FLINT, containing, by estimation, 180 acres, or thereabout, now in the occupation of Thomas Whitley, as tenant thereof. This Lot lies contiguous to the old turnpike-road, leading from Northop to Hawarden, and is in all respects very eligibly situate.—The owner of the other moiety of the above property is prepared to dispose of the same, and would join his co-proprietors in a sale of the entire estate.

Lot 2.—ONE UNDIVIDED THIRD PART, or SHARE, of and in all the COAL and MINERALS under Lot 1.

Lot 3.—ONE UNDIVIDED THIRD PART, or SHARE, of and in all the COAL and MINERALS under all those LANDS, comprising an extent of 100 acres, or thereabout, commonly called, or known as, the DUBLIN ESTATE, in the parish of Northop aforesaid.

Lot 4.—ONE UNDIVIDED THIRD PART, or SHARE, of, and in all the COAL and MINERALS, under all that ESTATE, commonly called the CHESHIRE FARM, in the parish of Northop, aforesaid, and containing by estimation 112 acres or thereabout. The main and other beds of coal have been proved to extend under a great part of the foregoing lands, and are now in the course of successful working by Messrs. Rigbys and Hancock. The Chester and Holyhead Railway runs through the Cheshire Farm Estate, which abuts on the River Dee, and affords convenient situations for the erection of good shipping places; and to the use and enjoyment of which the proprietors of Lots 2 and 3 would have equal right with the proprietor of Lot 4.

Lot 5.—ONE UNDIVIDED THIRD PART, or SHARE, of and in all those several and well-known COLLIERIES in the parishes of NORTHOP and HAWARDEN, now worked and carried on by Messrs. Rigbys and Hancock; and of and in all the leases under which the same are held; and of and in all the powerful engines and machinery, railways, vessels, book debts, and other stock and materials appertaining thereto. The situation of the collieries is excellent, having good turnpike roads connecting them with all the surrounding country. They also lie within an easy distance of the River Dee, and the Chester and Holyhead Railway, and by well-appointed private railways running through the lands of the lessees are thoroughly connected therewith; "sidings," to lead from the former railway to the yards or depôts of the lessees, on the banks of the river, are now in the course of formation, and, altogether the conveniences for the transmission of coal to all parts of the kingdom, either by water or by railway, are most effectual and complete.

The vendors, if required, would treat for the disposal of all the property in one entire lot, or in two separate lots. The Northop Hall Estate forming Lot 1, and all the remaining lots forming Lot 2.

For all further particulars, and to treat for all or any of the Lots, apply to H. L. Rigby, Esq., Hawarden, Flintshire; James Boydell, Esq., land and mine agent, No. 54, Threadneedle-street, London; or to Mr. Wm. Williamson, solicitor, Holywell, Flintshire.

March, 1849. [This advertisement will not be repeated.]

EXTENSIVE IRON-WORKS FOR SALE.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, GLASGOW, upon Wednesday, the 11th day of April next, at One o'clock in the afternoon (if not previously disposed of by private bargain), the

BLAIR IRON-WORKS,

belonging to the Ayrshire Iron Company, situated in the parish of Dalry and county of Ayr.—These works, which have been recently erected at an immense cost, consist of

TWO BLOWING ENGINES, FIVE BLAST-FURNACES, WORKMEN'S HOUSES, STEAM-ENGINES for working the minerals, together with UTENSILS at the pits, furnaces, &c., all in working order, and capable of producing upwards of 35,000 tons of pig-iron per annum.

One of the blowing engines, high-pressure, estimated at 90-horse power, was erected in 1841—the other, a condensing engine, was erected in 1847, and is estimated at 200-horse power, the latter being capable of blowing five furnaces, and both fitted up in the most substantial manner, and at present in good working condition.

The furnaces have been erected with the greatest care, and are fitted with air-heating apparatus of the most approved construction. The make of each furnace has generally averaged upwards of 150 tons of iron per week, and some of them have produced 180.—There are, besides the manager's house and store buildings, 187 workmen's houses, in a habitable state, attached to the furnaces and pits, and there are 20 partly built, which could be finished at a small additional outlay. There are also a new foundry, wright's shop, fire-brick work, smithy, &c.

The MINERAL FIELDS consist of COAL, IRONSTONE, LIMESTONE, and FIRE-CLAY, held in lease by the company at moderate fixed rents and royalties, all situated within easy distances of the furnaces, and for the most part have the advantage of railway communication.

The COAL FIELDS consist of several hundred acres, of which only a small portion has been wrought; several pits, fitted with good engines and machinery, are sunk to the coal, and partly in operation.

The IRONSTONE consists of the well-known BLACK-BAND, yielding about 3000 tons of calcined stone per acre, and it has been estimated that there are 300 acres, or thereby, still to work, *besides* about 200 acres, which, from borings just completed, it is ascertained also exists, as well as in adjoining lands, the minerals in which are still undisposed of. There is also a large extent of CLAY-BAND IRONSTONE, hitherto little wrought, but capable of yielding a large output. There are 15 pits, with excellent steam-engines, some of them in present operation, and others ready to resume working.

The LIMESTONE QUARRY is worked by open cast, and is connected with the works by railway.

The FIRE-CLAY is abundant, of excellent quality, and cheaply produced.

There is a large stock of ironstone on the ground, which can be got at a valuation, so that the works can be put into immediate operation, and having a connection with the Glasgow and Ayr and Ardrossan Railways, along which the produce has the privilege of conveyance at low rates, the present affords an excellent opportunity for parties entering into the iron trade.

MALLEABLE IRON-WORKS.

Considerable progress has been made in the erection of extensive malleable works, immediately adjoining the pig-iron works, which will be sold either together therewith or separately.

Memorandum of leases, plans of the property and mineral workings, may be seen, and every necessary information afforded, on application to Mr. Biggart, Dalry; Mr. Watson, 32, and Mr. Brown, 35, St. Vincent-place, Glasgow; Messrs. M'Clelland and Mackenzie, accountants, Glasgow; Messrs. Gibson, Craigs, Dalziel, and Brodie, W.S., Edinburgh; or Messrs. Montgomerie and Fleming, writers, Glasgow—the last being in possession of the title deeds and articles of roup.

N.B.—The purchaser of these works has an opportunity of at the same time acquiring the mansion-house and lands of Pitcon, immediately adjoining.

Glasgow, March 9, 1849.

VALUABLE ESTATE AND MINERAL FIELD IN AYRSHIRE FOR SALE.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, Queen-street, Glasgow, upon Wednesday, the 11th day of April next, at One o'clock afternoon, unless previously disposed of by private bargain, all and whole the

LANDS AND ESTATE OF PITCON,

Extending to about 216 acres, imperial measure, as more particularly described in former advertisements; together with the MANSION-HOUSE, and OFFICES and GARDEN thereto belonging; and the whole MINERALS and METALS in the said Lands, excepting these 8 acres, or thereby, Scotch measure, now belonging to the Glengarnock Iron Company, of their presently-working seam of ironstone in the said Lands; and also excepting the Pitcon Railway and Branches, in so far as the same are within, and pass through, the said lands.

The MANSION-HOUSE is in good order and repair, and has attached to it a set of suitable and commodious offices, with walled garden, shubbery, and pleasure ground; and the whole are well enclosed.

The LANDS, let under lease, extend to about 140 acres Scotch or thereby, and are at present held by a respectable tenant, at a surface rent of 490l. sterling per annum. The farm steading is in good order and repair.

The MINERALS, comprising the most valuable description of ironstone, extend to about 140 acres still unwrought, and are held upon lease by the Ayrshire Iron Company. Upon a moderate calculation, the black-band yields about 3000 tons calcined ironstone to the imperial acre. There are, besides, several seams of Coal and other Minerals in the Lands.

This estate is situated near to the village of DALRY, at which there is a station upon the line of the Glasgow, Paisley, and Ayr Railway, and in the immediate neighbourhood of the Ayrshire Iron Company's Works, with which it is connected by railway communication, and will, in consequence, form a most desirable and profitable investment to the purchaser of the Ayrshire Iron Company's works (the Blair Iron Works), which, along with the benefit of the mineral lease of Pitcon, are advertised to be sold, by public roup, at the same time and place with this estate.

The public and parish burdens payable from the estate are small.

For further particulars, application may be made to M'Clelland and M'Kenzie, accountants, 128 Ingram-street, Glasgow,; Robert M'Cowan, accountant, 17 Gordon-street, there; Knox and Findlay, writers, 29, St. Vincent-place, there; James M'Coah, writer, in Dalry; or to Douglas and Ranken, writers, 81, St. George's-place, Glasgow, in whose hands the articles of roup and title deeds, and a plan of the estate and mineral workings, may be seen.—Mr. M'Cosh will give directions for the lands being pointed out, and the mansion-house, offices, and garden, being shown to inquirers. BOGLE & CO., Auctioneers.

Glasgow, March 12, 1849.

HIGH-PRESSURE ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, a HIGH-PRESSURE STEAM-ENGINE, 40-horse power, well adapted for drawing and pumping; cylinder 2 feet 6 inches diameter, stroke 5 feet, fly-wheel 20 feet diameter, and beam 19 feet long. Also, TWO CYLINDRICAL BOILERS, 24 feet long, and 6 feet diameter. The engine may be seen at the Bramhope Tunnel, on applying to Mr. Taylor, Tunnel Office, Bramhope, near Leeds; and further particulars may be had, on application to Mr. Bourne, engineer, at the Leeds and Thirsk Railway Offices, 5, South Parade, Leeds.

STEAM-ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, a 63-inch cylinder PUMPING ENGINE, on the Cornish principle, without boilers—9-feet 6-inch stroke in cylinder, and 7-feet 6-inch in shaft, with bright working gear, &c.—For further particulars, and to treat for the same, apply to Mr. Wm. Gregor, Raven-hill, Swansea.—March 19, 1849.

STEAM-ENGINES TO BE SOLD.—The following superior NEW HIGH-PRESSURE ENGINES—viz.: 1 30-horse, 2 12-horse, 1 7-horse, 1 3-horse, and 1 2-horse HIGH-PRESSURE STEAM-ENGINES, with or without boilers.—For particulars and price, apply to Mr. Joseph Spencer, Bilston Foundry, Staffordshire.

FOR SALE, a LOW-PRESSURE BLOWING ENGINE, 50-inch steam-cylinder, blowing cylinder 100-inch, 8-feet stroke, with nozzles, air-pump, &c., complete.

A 40-inch HIGH-PRESSURE STEAM CYLINDER, 8-feet stroke, with top and bottom nozzles, and gearing complete.

A BLOWING CYLINDER, 90-inches diameter, for 8-feet stroke.

A 38-inch HIGH-PRESSURE STEAM CYLINDER, for 7-feet stroke, with top and bottom and nozzles.

For price and further particulars, apply to Mr. J. Evans, Dowlais Iron-Works, Cardiff

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FOR SALE, a SECOND-HAND 60-horse HIGH-PRESSURE PUMPING-ENGINE, 30-inch cylinder, 7-feet stroke, with two large boilers, in excellent condition. Also, a 10-horse ATMOSPHERIC DRAWING-ENGINE, with boiler, cog-wheels, and drum—the cylinder constructed so as to be easily altered into a 20-horse condensing. Also, a LOT of 15-inch PUMPS.

Apply to Mr. William Clark, Holmes Colliery, Rotherham, Yorkshire.

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM.

Price—£12 to £16; with boiler, £22 per horse.

TO GAS COMPANIES,

TO BE DISPOSED OF, BY PRIVATE TREATY, ONE TELESCOPE GASHOLDER, 80 feet diameter and 18 feet each lift; also FOUR LARGE DRY LIME PURIFYERS, each 23 feet long by 15 feet wide, and 5 feet deep, with scives and lids, complete, with 18-inch connections, arranged to work with a central revolving valve, 8½-feet diameter—the water-joints being 8 feet deep.—Applications to be addressed to Mr. Richardson, engineer, Dudley.

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.: St. John del Rey, Tamar, Treviskey and Barrier, Great Devon Consols, Alten, Australian, Condurrow, East Wheal Rose, and Wheal Seton Mines, Great Consols Gwennap, Treviskey, Trethellan, Mary Anne, East Tamar, Tincroft, and Keswick Mining Company.

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities.

MINING OFFICES, No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. RICHARD THOMAS (who has had 20 years' experience as a mining agent in London) OFFERS his SERVICES in the PURCHASE and SALE of MINE and OTHER SHARES, on commission. Purchases in many valuable mines may now be made at unprecedently low prices. The fullest information given (without charge) relative to mining investments and operations.

N.B.—R. T. has now ON SALE a limited number of SHARES in an undertaking offering unusual advantages, situated in one of the best mining districts in Cornwall.

Full particulars will be furnished on application.

MINING OFFICES, No. 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.—Messrs. WATSON and CUELL have FOR SALE, SHARES in Heigaston Down, East Tamar, South Tamar, Devon Great Consols, St. John del Rey, Trelawny, Mary Ann, and most of the best dividend-paying mines in Cornwall; and are PURCHASERS of Condurrow, North Pool, Stray Park, Treviskey and Barrier, Tincroft, West Wheal Jewel, &c. &c.—Messrs. W. and C. have also FOR SALE, a few SHARES in the GRAND JUNCTION WATER-WORKS.

MR. THOS. P. THOMAS, MINING AGENT, AND DEALER IN RAILWAY, GAS, BANK, INSURANCE, AND OTHER SHARES.

3, *GEORGE-YARD, LOMBARD-STREET, LONDON.*

T. P. THOMAS is a SELLER of SHARES in the leading MINES of Cornwall, Devon, and Wales—paying from 10 to 30 per cent.—Statistical information afforded upon personal application, or by letter.

MR. GEORGE BATE, Jun., CIVIL ENGINEER AND SURVEYOR, *WOLVERHAMPTON.*

Offices in Queen-street, corner of Piper's-row.

N.B.—UNDERGROUND MINING SURVEYS accurately executed.

JAMES LANE, MINING SHARE DEALER, 80, *OLD BROAD-STREET, LONDON.*

METALLURGICAL ASSAYING AND ANALYSIS, on the most reasonable terms, by ALFRED SENIOR MERRY, *SHERBOURNE-STREET, BIRMINGHAM.*

KINZIGTHAL MINING ASSOCIATION, No. 1, Adelaide-place, March 24, 1849.—The SECOND GENERAL ANNUAL MEETING of this association will be HELD at the offices of the company, 1, Adelaide-place, London-bridge, on Friday, the 20th April next, at One o'clock precisely.

GEO. COPELAND CAPPER, Secretary.

TINCROFT MINING COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders in this company will be HELD on Tuesday, the 10th day of April next, at 44, Finsbury-square, at Two o'clock precisely.—London, March 15, 1849.

CAMBORNE CONSOLS MINING COMPANY.—NOTICE OF CALL.—Notice is hereby given, that the directors have this day resolved that the subscribers, or shareholders, in this company PAY, and they are hereby required to pay, on or before the 21st day of April next, into the bank of Messrs. Praed and Co., 189, Fleet-street, London, a CALL of ONE POUND upon each and every share held by them in this company; and that, pursuant to Art. 116 of the Company's Deed of Settlement, all and every share, or shares, upon which the said call of £1 per share shall not be paid within 14 days after becoming due, will be subject to absolute forfeiture.

No payment on account of the aforesaid call will be received by the company's bankers without a special order, which may be obtained on application to the secretary, at the company's offices, 29, Poultry, with whom the present certificates must be deposited, to be exchanged for share certificates of £6 paid.

By order of the board of directors,

TUCKER & STEVENSON,

Sun Chambers, Threadneedle-street,

Solicitors to the Camborne Consols Mining Company.

London, this 19th day of March, 1849.

CALLINGTON MINES COMPANY.—At the Annual General Meeting of shareholders in this company, held at the offices, 44, Finsbury-square, on the 30th inst., the following resolutions were proposed:—

Resolved,—That the report and accounts, now read and submitted, be received and adopted by this meeting, and entered in the cost and transfer-book of the company.—Carried.

Resolved,—That Peter Stainsby, Esq., the director retiring from the direction of the company by rotation, and who offers himself for re-election, be re-elected a director of this company.—Carried.

Resolved,—That the auditors, Messrs. Hammond and Leary, who retire from their office of auditors, and who offer themselves for re-election, be re-elected the auditors of the company for the present year.—Carried.

Resolved,—That the shareholders are much benefited by the able management of the directors, and that a special vote of thanks is hereby given to them, for their prudent and skilful administration of the company's affairs.—Carried.

Resolved,—That this meeting recommend to the directors the immediate and vigorous prosecution of the Kelly Bray Mine, in accordance with the advice of Mr. P. N. Johnson.—Carried.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY	Entomological—17, Old Bond-street	8 P.M.
	Chemical—Society of Arts, Adelphi	8 P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
	Pathological—21, Regent-street, Waterloo-place	8 P.M.
TUESDAY	Linnæan—Soho-square	8 P.M.
	Horticultural—21, Regent-street	3 P.M.
	Civil Engineers—25, Great George-street	8 P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Geological—Somerset-house	8½ P.M.
THURSDAY	Zoological—11, Hanover-square	3 P.M.
SATURDAY	Westminster Medical—17, Saville-row	8 P.M.

GEOLOGICAL SOCIETY.

MARCH 21.—SIR C. LYELL (President) in the chair.

The following papers were read:—"Description of the Erect Sigillaria, with Conical Tap Roots, found in the Roof of the Sydney Main Coal, Cape Breton," by R. Brown, Esq.—The specimen described was an upright stump, 16 in. high, and 12 inches in diameter. The root divided first into four segments, and each of these again divided, running out in numerous branches. On the under surface conical tap roots were seen—the first circle containing 16, and the second 32, corresponding to the number of double rows of leaf-scars on the bark. Another specimen had the exact form of the "dome-shaped fossil," described in Lindley and Hutton's *Fossil Flora*; and Mr. Brown considers it the same kind of tree, with the stem broken off near the root.

"Notice of Recent Researches in Asia Minor," by M. P. de Tchihatcheff.—M. Tchihatcheff has discovered palæozoic rocks forming the extensive range of the Anti-Taurus, and also on the northern shore of the Gulf of Nicomedia, near Constantinople. The red sandstone with gypsum and salt, which forms an immense deposit spread over all Asia Minor, he finds contains nummulites, Alveolina, and other fossils. He has collected Jurassic ammonites near Angora. The heights of 500 localities have been determined by means of the temperature of boiling water, and meteorological observations made at several places

INSTITUTION OF CIVIL ENGINEERS.

MARCH 27.—WILLIAM CUBITT, Esq. (Vice-President), in the chair.

The paper read was a "Description of the Groynes formed on the South Rocks, the site of the new docks at Sunderland," by Mr. W. Browne, Assoc. Inst. C.E. These groynes have been erected for the purpose of retaining the deposited materials excavated from the new docks, and of arresting the sand and shingle which naturally travel southward, in order to form a barrier beach, that should effectually exclude the sea from beyond a given line. The three first, whose lengths varied from 326 to 358 ft., were erected at a height above ordinary high-water mark of 2 ft. 6 in., and 10 feet at the seaward and inner ends respectively. The exterior was composed of ashlar work; the interior partly of the excavated magnesian limestone, and partly of rubble set in mortar; the batter of the north sides was 2½ inches to a foot, that of the south sides one to one, and the crest was formed into an arch, with a radius of 5 ft. 6 in. The four other groynes were constructed of a different form, in consequence of those first erected not retaining the deposited excavation, and accumulating other materials as was desirable, and from their having been injured by the sea, during a heavy storm, which occurred at the time of the equinoctial tides, during the spring of 1848, when a breach was made in the first and third groynes, and at the same time some of the stones in the second groyne were loosened; these effects were produced at about the same point in each—namely, the intersection of the inclination of the groyne with the line of ordinary high-water mark; and it was found, from observation, that the momentum of the waves was greatest at or about the time of high-water. The sides of these groynes were semi-cycloidal, each being generated by a circle of 12 feet 9 inches in diameter, and uniting at the apex; the seaward and inner ends are respectively 7 feet and 10 feet above ordinary high-water mark, and their lengths varied from 510 feet to 579 feet; the foundations of these groynes consisted of a course of freestone, laid at an average depth of 2 feet below the surface; the sides were also of coursed freestone, set header and stretcher alternately, and the hearting of large sized rubble, closely packed, the vacancies between it and the ashlar work being filled with small stones set in Roman cement, so as to ensure a solid bed; at a depth of 6 feet below the crest of the groyne, and resting upon the rubble hearting, coursed ashlar was introduced, and carried as near to the crest as possible, the masonry being likewise set in Roman cement. The construction of these groynes commenced at the seaward point, and they were placed at distances of from 350 to 450 feet apart; the quantity of material excavated and deposited between them was stated to amount already to 730,000 cubic yards; it consisted partly of hard blue clay, and partly of marly rock or soft magnesian limestone, and the barrier beach formed by them had completely withstood all the gales which occurred during the winters of 1847-8, and 1848-9.

Some very interesting information was given as to the action of the tides in the Wear, and the reasons for the construction of the new docks, which were stated to promise to be of immense importance to the trade of that port. During the discussion, Mr. Murray explained very clearly his views in the design for the docks, and for the direction of the groynes, and the various works in the harbour for arresting the waves in their progress up the river. This investigation of this subject elicited some very interesting remarks as to the action of waves striking walls and groynes at various angles, when, instead of being entirely reflected, they were in part retained and guided along the face. This was a peculiarity which, it was stated, should be taken advantage of in hydraulic works. This discussion was announced to be renewed next Tuesday, April 3, when a paper "On the Obstructions to Navigation in Tidal Rivers," by Mr. J. T. Harrison, M. Inst. C.E., will be read.

COAL "FAULTS," GASES, &c.—"The north and south are called *main faults*, or meridian splits, and the east and west *cross faults*, or transverse fractures. When the strata rest on a semi-fluid base, such as beds of clay and moist carbonate of lime, the divisional joints disturb the uniformity of the pressure; consequently, the isolated masses will gradually subside, or elevate, according to the angle in which they are separated. The most simple and frequent case of faults is represented in plate 23. According to the laws of statics, the pressure increases as the lower area of the divided masses become less than the upper, and *vice versâ*: the weight divided by the area will give the amount of each; therefore the wedges will *sink*, and the parts between them *rise*, to restore the equilibrium of the pressure on the semi-fluid base. The divisional planes will be, more or less, grooved or striated by the friction of the lateral pressure. These dislocations are going on so slow, that the irregularities on the surface, which would be produced by such depressions and upheavals, are at equal rate modified and obliterated by atmospheric and aqueous causes. Independent of the great faults, there are innumerable minute ones parallel to them, forming what are called *partings, bright heads, &c.* Intersecting the whole series are the *polar cleavages*—whatever may be the angle of the strata, or the undulation of the coal beds, the *polar cleavages* preserve a uniform parallelism at a high angle in a northernly direction. 'Faults' are often filled with clay and various other substances, squeezed into them from the bordering strata, and from soft beds below. The *clay faults* are often impermeable, and, consequently, the water percolating in each mass is retained by these natural dams, and also their respective gases, which is of great advantage to the independent workings of coal districts. The local accumulation and production of the gases depend much on the cleavage planes, the angular position of the 'faults,' &c. One district may be completely kept free from gaseous accumulation with very moderate current; whereas another, in the same neighbourhood, can only be removed from its recesses with the most powerful means. The gases, like the feeders of mineral veins, are often concentrated into some parts much more than others. This interesting question deserves a separate investigation, in connection with the best mode of ventilation, to endeavour to avoid, by every practical means, the disastrous effects of these dangerous elements, which the coal miner has to encounter."—Hopkins *On the Connection of Geology and Magnetism.*

During the week, a cork mattress for ships has been deposited at the Royal Polytechnic Institution, by which the public will have the opportunity of witnessing various experiments exhibited by the divers of the establishment, to prove the advantage of the invention. A number of experiments were last summer exhibited on the Thames and in Woolwich Dockyard, for the purpose of testing the efficacy of the invention, in the presence of Sir G. Bremer and the authorities, who all expressed themselves perfectly satisfied with the results. The invention is exceedingly simple, being small shreds of cork for stuffing mattresses, instead of horse-hair, wool, or flock. Until lately it has been impossible to obtain the material in sufficient quantities, from the difficulty of obtaining machinery of sufficient power to oversome the exceeding toughness of the cork—consequently the process was correspondingly slow, and the invention did not become very generally known or used. A machine has however, been perfected, and is now working on the premises of the patentee, at the City Saw Mills, Regent's-canal, by which the cork is cut with the greatest dispatch and facility. The recent loss of lives on the coast of Essex would not, most probably, have happened had the vessel been provided with mattresses stuffed with this material, for six usual-sized mattresses, lashed together, will support with ease 50 persons.

HOLLOWAY'S OINTMENT AND PILLS AGAIN TRIUMPHANT IN THE CURE OF A BAD LEG OF TEN YEARS' DURATION.—Extract of a letter from Mr. Harris, Aine-hill, Alcester, March 14, 1849.—"To Professor Holloway—SIR: I suffered for upwards of 10 years with a bad leg, in which were five running sores, and, although I tried various methods of treatment, as prescribed by different medical men, still it got worse. Seeing in the papers notices of the cures your valuable medicines have performed, I determined on trying them, and by their use and the blessing of God, a perfect cure of my leg was effected six months ago."—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Falmouth Water-Works Company—offices, Westminster, at Two.
	Whitehaven and Furness Junction Railway—offices, at One.
	Rosherville Pier and Botanical Gardens Co.—London Tavern, at Two.
TUESDAY	Pennant Mining Company—offices, at Twelve.
WEDNESDAY	South Metropolitan Gas-Light and Coke Co.—London Tavern, at Two.
	River Dee Company—offices, at Eleven.
	India and London Life Assurance Company—offices, at One.
THURSDAY	Mining Company of Scotland—offices, at Twelve for One.
	Bank of Australasia—offices, at One.
	East London Water-Works Company—offices, at Twelve.

[The meetings of Mining Companies are inserted among the Mining Intelligence.

BRITISH AMERICAN LAND COMPANY.

The annual meeting of this company was held on Monday, the 26th inst., at the London Tavern, Bishopsgate-street, for receiving the report, and the re-election of directors.

ALEXANDER GILLESPIE, Esq. (the governor), in the chair.

The SECRETARY read the advertisement, and the minutes of the last meeting in November, 1848. He then read the report, from which we make the following extracts, as being the most important to the public:—

The directors stated, in their last annual report, that notwithstanding the vicissitudes which had taken place in Canada, as well as in this country, and which had not failed to tell upon the affairs of the company, the general result of the year's transactions have been more favourable than might, under such circumstances, have been anticipated. The present report embraces a period not less marked by general depressions in Canada, and yet, the operations of the company present features of a satisfactory character, and such as afford indications of permanent improvement. The sales show an increase of 11,506¾ acres, amount 5,673*l.* 7*s.* 7*d.* over the past year, the total quantity sold being 25,921¾ acres for 15,687*l.* 12*s.* 6*d.*, and the average price of 11*s.* 6¼*d.* per acre. The average price of the lands sold, as stated in the last report, was 13*s.* 1*d.* per acre; the diminution in the price obtained arises from the bulk of the sales effected being of the unimproved lands in Roxton, at 10*s.*, and in Orford, at 7*s.* 6*d.* per acre, in pursuance of an agreement entered into with the French Canadian Association. With regard to the sales, the commissioner writes as follows:—"The result of the past year's operations in this respect has greatly exceeded my expectations, my estimate, even so late as 25th September, having been limited to 20,000 acres. I think there is well-grounded satisfaction to be derived from these returns, especially considering that the very depressed state of the country has curtailed our sales throughout a large section of the townships."

The expenditure has been generally confined to those townships where the bulk of the sales have taken place, and which would not otherwise have been effected. By the outlay in 1847 and 1848, a tolerably good waggon-road has been constructed from Montreal to Roxton, a distance of nine miles, and opening up a tract of 40,000 acres, now in course of rapid settlement. A thriving village has sprung up in Roxton, and the success of the establishment is secured. A very good commencement has also been made in Orford, and also in Weedon, where the nucleus of a thriving settlement has been planted. The company's commissioner, alluding to what had been done in the course of 1848, thus remarks upon the subject:—"This report embraces the transactions of a year when the greatest depression has existed in Canada. I may, therefore, be permitted to hope that the court of proprietors will be satisfied to find that both their sales of land, and receipts of money, have increased; and although, by unforeseen events, their expenditure has also been augmented, yet this outlay is from temporary causes, while the former are evidence of permanent prosperity. Had the times been ordinarily advantageous, it may be supposed that the favourable features of the year's transactions would have been improved, and the unexpected calls for outlay avoided."

On the subject of emigration from Europe, the commissioner states, that the proportion of the emigrants who have found their way to the eastern townships has, as usual, been very limited, though composed of a somewhat better class. He has retained agents at Quebec and Montreal, with whose exertions he has every reason to be satisfied; but the stream sets so strongly to the westward, and the difficulty of reaching the townships is comparatively so great, being by land carriage, that the efforts used have not been productive of any more advantage, in 1848, than in former years. To the railroad the company can alone look, with any degree of hope, for obtaining any large or desirable body of European settlers, as otherwise the company's exertions must be limited to the Canadian and American population for the disposal of their lands. The commissioner notices with much satisfaction the exertions commenced by the Government, during the past year, to promote the settlement of their waste lands in the eastern townships, and anticipates that their measures will prove very beneficial to the company's estate. The directors now advert to a subject of much importance as regards the company's general interest—viz., the St. Lawrence and Atlantic Railway. They have much gratification in stating that 30 miles of the railroad are now in actual operation, and that the trains run twice a day to St. Hyacinthe, which is within 15 miles of Acton, where the company's territory commences, and is one-third of the entire distance from Montreal to Sherbrooke. The payments hitherto made on this account were met by the aid of a loan from the bankers of the company, amounting to 9000*l.* This aid was sought for, partly to give the opportunity of ascertaining what prospect there was of supplying the requisite funds out of the receipts of the company in Canada, and partly with the desire of postponing any call on the proprietors until it became absolutely necessary. After much anxious consideration, the directors have arrived at the conclusion, that no benefit could be derived by forbearing any longer to make a call sufficient to complete the payments. In their last report the directors stated their intention of calling 2*l.* per share, but intimated that a sum of about 6000*l.* would still remain due, which they then entertained some hope might be provided from the Canadian resources; in this, however, they have been disappointed, and feeling that nothing but disadvantage could arise from remaining in debt, they deemed it expedient to extend the amount to 3*l.* per share, in two instalments of 1*l.* 10*s.* each; but they have the confident expectation that this will be the last call that, under any circumstances, will ever be made on the proprietors. The directors fully agree in the opinion frequently expressed by the commissioner, that upon the completion of the railway the prosperity of the company mainly depends; the portion already opened promises to be very beneficial to this company, as well as remunerative to the proprietors, and they sincerely hope that the strenuous efforts now making in Canada, by the directors of that corporation, will be crowned with success; and, on the whole, they feel warranted in expressing a confident hope, that the period is not now very remote when, by carefully husbanding their resources, they may the satisfaction of announcing to the proprietors that they are in a position to commence making some return, in the form of dividend, for the capital so long unprofitably invested in this company. The directors who go out by rotation are, Alexander Gillespie, Esq. (the Governor), Russell Ellice, Esq., Thomas Poynder, Esq., John B. Elin, Esq., and Robert Carter, Esq. (auditor), who, being eligible, offer themselves for re-election.

Mr. SANDOZ moved that the report now read be received and adopted.—Mr. CLARKE seconded the motion, which was unanimously carried.

Mr. SANDOZ said, from the extracts read, it appeared that the directors were justified in making the call; and, from the improved condition of the property, he should say there ought to be no hesitation in paying. (Hear, hear.) He hoped it had been answered by all the proprietors. (Hear, hear.) It was one of the most happy circumstances that they had a respectable body of directors, and as respectable a body of proprietors as any company in London, and he hoped the directors would consider it their duty to enforce the payment of the first instalment, now overdue, in justice to those who have met the call promptly.

Mr. CLARKE asked how the call was met in Canada?

The CHAIRMAN said, the usual formalities had been gone through there, and that the call would be shortly in the course of payment. There were some proprietors here in arrear, in respect to whom the directors would pursue the usual course. In this country 4000 shares had been paid upon, leaving about 1300 in arrear; and in Canada about 600 shares were to be paid upon, in respect to which they must wait for the time to arrive, as it had necessarily been made a month later than here; but it was not expected that many would remain in arrear, now that the state of things was so much improved.

Mr. ANDERTON thought that, if the directors did not absolutely forfeit the shares, they should make all those pay interest who were in arrear. (Hear.)

The CHAIRMAN stated that the directors had issued a second circular to that effect to the defaulters, in order to induce them to pay up before this day. If they paid subsequent to this day, it would bear with interest from the 10th March.

Mr. WHITE asked if it were not originally understood that the railway calls should be paid out of the general stock of the company?

The CHAIRMAN hoped the honourable proprietor did not mean that any intimation of the sort came from the board, that the calls could be completely met out of the assets of the company. It had been understood, when the proprietors decided to take shares in the railway to the extent of 25,000*l.* Halifax currency, that the assets of the company should be responsible; but he agreed that at that time it was anticipated that funds would come in so rapidly in Canada, as to obviate the necessity of a call. (Hear.) That did not take place, in consequence of the state of the money market, and other unforeseen circumstances, and the railway company had been obliged to make their calls with greater rapidity than was at first intended; all which circumstances combining, left this company no other alternative than to make the call. He (the chairman), in reply to some observations respecting the cost of management, said—As to the increased expense of management, as compared with three years ago, the meeting must recollect that the directors entered into a new and more expensive arrangement since that time with Mr. Galt, on the ground of his valuable services to the company. (Hear, hear.) Other expenses arose in the settlement of Roxton, in consequence of the French Canadians coming over in such numbers. In consequence of the great difficulty of getting in their debts, the commissioner had adopted the plan of taking produce from the different tenants in payment, the disposal and care of which led, consequently, to a certain amount of expense, which was unavoidable. (Hear.)

A PROPRIETOR complained that, during the time he had been in the company, no dividends had been allowed, and yet they had been paid previously.

Mr. POYNDER (a director): Only out of capital.

The CHAIRMAN said, they did pay a dividend of 4 per cent. for a considerable period out of capital, but as the directors saw no immediate prospect of paying it out of profits, they applied to the proprietors on the subject, when it was agreed that they should no longer pay dividends out of capital. If the proprietors had received an income out of profits, the directors would take blame to themselves for not being able to continue it, but not for stopping the dividends out of capital, for this was done by the resolution of the proprietors themselves. (Hear, hear.)

Mr. ANDERTON complained of the directors spending money in bricks and mortar, the value of which they could never afterwards realise.

The CHAIRMAN said, unless they wished to abandon the property altogether, they must lend some kind of assistance to the settlers, and nothing was so important as the erection of grist-mills and saw-mills in a new settlement.

Mr. CUMMINS (deputy governor) was afraid few gentlemen had a knowledge of the business to be done in Canada; and, when they spoke of the expenses there, they should just for one moment consider the extent of the property of the company, and they would see the amount of business to be transacted. They had yet lent out on mortgage to the extent of 70,900*l.*, which was due for sales made, and which they might consider as so much mortgage upon land bearing 6 per cent. interest. This revenue has to be received and looked after every year. They had now 600,000 acres thrown open for settlers, and also to make roads in those parts where settlers were disposed to come, and to execute other necessary works for their convenience. When the railway instalments should be paid up, they would have very nearly 100,000*l.* currency as an investment, bearing 6 per cent. interest, besides 600,000 acres of land in the course of very rapid settlement. The commissioner was now using every exertion in order settlers might comfortably enter upon the lands; and as to the instalments on mortgage, it was his plan not to allow the tenant to remain in arrear, if he did not see a certainty of the interest at least being obtained.

Mr. POYNDER thought their property was better at this time than at any previous period. (Hear, hear.)

The report having been adopted unanimously, Messrs. Alexander Gillespie, Russell Ellice, Thomas Poynder, and John B. Elin, were re-elected directors, and Robert Carter, Esq., as auditor.—A vote of thanks was unanimously passed to the governor, deputy governor, and the rest of the directors, when the meeting adjourned.

PROFESSIONAL LIFE ASSURANCE COMPANY.

The annual general meeting of this society was held on Wednesday last, the 28th inst., at the offices, Cheapside.

Major H. STONES (late of the 13th Dragoons) having taken the chair, apologised for the absence of Lieut.-Colonel Cameron, the chairman of the company, which arose from a domestic calamity.

Mr. E. BAYLIS (the actuary) read the following report of the directors:—

The directors feel much pleasure in meeting the shareholders on this, the second occasion, as appointed by the Deed of Settlement, and rendering an account of the proceedings of the last year. The directors consider it a subject of congratulation that, although established in times of extraordinary difficulty and distrust, at a period when the commercial world appeared involved in ruin, and in a state of utter prostration and embarrassment, this company has from its earliest commencement been favoured with the unequivocal support and approval of the public; in consequence of which, notwithstanding the discouraging nature of the times—times as they have been so prejudicial to life assurance in particular, as well as to any other description of investment—171 policies have been effected since the last general meeting, making 271 policies in the aggregate, producing, after deducting those lapsed and discontinued, an income of 240*l.* 11*s.* 3*d.* per annum. The additional increase of business is the more encouraging, inasmuch as the directors have not forced the operations of the company, but have restrained the expenditure incurred in advertising, &c., within comparatively a very limited amount. To give due publicity and efficiency to institutions of this nature, very considerable outlay must, in the first instance, be necessarily incurred; and the charge for advertisements only, has, in some cases, been known to amount to many thousand pounds, and in its liquidation to have acted like an incubus and a drain upon the resources of many succeeding years. The directors, however, of this institution, have considered it their duty not to allow the expenditure to exceed what was absolutely requisite to establish and start the company; and they are happy to state, that not only all the expenses of instituting and carrying on the company, but also the total losses by deaths, from the commencement of the company to the present time, have been promptly met and satisfied. The balance-sheet, as approved and audited, and this day laid before you, and which the directors refer to as part of this report, exhibits the receipts and disbursements for a period of 12 months, terminating on the 31st of December last. The expenses of office furniture, alterations and fittings, of advertising, printing, and agencies, salaries and law charges, have been all duly and fully paid, and have, it is believed, amounted to much less than those of any other company. The agencies established amount to no less a number than 240, and are of the most select and respectable character. The directors, under circumstances highly favourable to the company, have secured of E. G. Winthrop, Esq., a lease of the premises now occupied by the company, than which it is believed none exist in the metropolis more suitable for the offices of a life assurance company; and the directors feel much pleasure in submitting the contract entered into with that gentleman for the confirmation of the meeting. Upwards of 6280 shares in the capital of the company have been taken up since the last annual meeting, of which 3145 have been disposed of since the 1st day of January last, showing that the public are now more than ever disposed to appreciate the advantages offered by this company. The directors refer with peculiar satisfaction to the highly respectable list of names composing the proprietary, establishing beyond doubt the solidity of the institution. The capital now actually subscribed for amounts to 171,060*l.* 10*s.*, being an increase since the last meeting of 78,500*l.* 10*s.*, and including nearly 230 additional shareholders, making the total number upwards of 310. Among the many valuable and influential names introduced to the list of proprietors since the last annual report, the directors congratulate the meeting on the accession recently of two gentlemen of high character and responsibility—namely, of James Andrew Durham, Esq., of Crossdeep Lodge, Twickenham, director of the London and County Bank, and Thomas George Williams, Esq., of Northampton-place, Hackney road, of known influence in the city. These two gentlemen being candidates for the appointment of seats at the board, and duly qualified, inasmuch as they hold 500 shares each, the directors venture to bespeak your unanimous support at the earliest possible opportunity allowed by the Deed of Settlement for their election; notice of which will be given in due time. The advantages and privileges peculiar to original shareholders of this company being of a very unusual and important character, the directors have invariably endeavoured to admit such persons only in their proprietary, who were deemed eligible from recommendation, or otherwise considered and approved of, as calculated by influence and position to contribute to the advancement of the prosperity of the common interests. At the present time this caution becomes the more necessary, in consequence of the diminished supply on hand of shares, and the daily increasing demand for them; still, however, in pursuance of their earnest and anxious desire to extend the benefits and operations of the company, as widely and as efficiently as possible, they will do their utmost to comply with the wishes and recommendation of their shareholders, in a satisfactory disposal of the remainder, more especially to parties in the country, among their agents and medical referees, their friends and connections. In order more fully to promote among the community a knowledge of the principles of the corporation, and to render more familiar and intelligible the many original and comprehensive advantages which it embodies, the directors have caused extensive tables to be prepared, printed, and circulated, applicable to its various capabilities and operations, and exhibiting in practical illustrations the great and lasting benefits derivable from their adoption. Especially and emphatically, they beg to impress upon your notice, that all policies issued by this corporation are beyond the risk or possibility of litigation, when once issued are indisputable, and that such clause of indisputability is inserted in every policy—thus relieving the minds of survivors, representatives, and assignees from all apprehension and uncertainty, as to the payment of their claims. Added to which, all policy holders of five years' duration, their widows and orphans, will, in the hour of distress, as provided for by the Deed of Settlement, be protected against want by the appropriation of one-tenth of the annual profits of the corporation to this beneficent purpose. The directors also solicit your earnest attention to that novel and inestimable mode of assurance peculiar to this office, by which parties of every profession and condition of life, may upon easy terms secure themselves and families against the calamitous consequences attendant upon helplessness arising from every cause of infirmity, bodily or mental. Finally, conscious of the utility and importance, novel, manifold, valuable and original advantages inherent in the institution, and relying with confidence on the cordial and unabated support of its well-wishers, the directors, assisted and encouraged in their endeavours by their shareholders and their assured, by their agents and their medical referees, and by the patronage and good opinion of the public in general, are convinced that every anticipation entertained of the success and permanence of the company will be fully realised; and that when the various branches which it embraces, and the benefits which it confers, are thoroughly understood, it will attain a degree of prosperity, popularity, and stability, highly advantageous and honourable to all parties concerned, and not exceeded by any other office. The directors have again the pleasure of recommending to the proprietary that a dividend should be declared after the rate of 5*l.* per cent. per annum, free from income-tax, on the paid up capital of the company to the 31st of December last, in conformity with the terms of the Deed of Settlement.

The following gentlemen retire as directors by rotation—viz.: Rev. J. W. Gleadall, M. A., Henry Hart, Esq., and William Heseltine, Esq.; and, being eligible for re-election, offer themselves accordingly. E. G. Winthrop, Esq., a duly qualified shareholder, having given the requisite notice, also offers himself for election as a director; and the board of directors have much pleasure in bearing testimony to the important and material services rendered by that gentleman to the company from its commencement, and beg, therefore, to recommend his appointment to the shareholders. G. Bain, Esq., and G. Evans, Esq., also retire as auditors, and offer themselves for re-election.

The CHAIRMAN, in moving that the report be adopted, observed that the less he said, perhaps, the better, as good wine needed no bush. (Hear, hear.) There was, however, one feature in the report to which he must allude, which was the great prosperity of the institution since the last meeting. Looking to the extent of the proprietary, and the excellent principles on which it was founded, he had no doubt that it would become one of the most substantial and successful institutions in this kingdom. (Hear, hear.) It now remained for the proprietors to devote themselves, heart and soul, to the advancement of its interests, and if two years ago they felt no delicacy in recommending it to their friends and associates, they could do so now with much greater confidence, seeing that its income from premiums was between 2000*l.* and 3000*l.* a year. It was not too much to expect that it would become double in the course of another year; to obtain that result the proprietors must not be idle, but, on the contrary, be most strenuous in their efforts. Their worthy actuary and resident manager, Mr. Baylis, might be called the father of this institution, for by his careless and anxious care he had brought it to its present age, whilst the directors had rocked the cradle in turns, as well as they were able; the result was, that they had now produced a child which they were not afraid of offering to the public. (Laughter.) He hoped every proprietor would be so far satisfied with what he had heard, that he would go home and make up his mind to bring them a policy—he would not say before to-morrow, but that he would only do it in the year, when the society would meet with that success which he was quite sure it deserved. (Hear, hear.) In conclusion, he would move that the report now read be received, adopted, and printed for the use of the proprietors.

Mr. HOLDWORTH seconded the motion.—The report was adopted unanimously.

Capt. NOSWORTH, R.N., moved that the Rev. J. W. Gleadall, M.A., Henry Hart, Esq., and William Heseltine, Esq., be re-elected directors. (Hear, hear.)

The CHAIRMAN seconded the motion, knowing, as he did, how largely the society was indebted to the exertions and abilities of those gentlemen.

The motion was agreed to unanimously.

Mr. HART was very much obliged for the courteous manner in which that resolution had been passed. He was authorised to say that the Rev. Mr. Gleadhall was only prevented from being amongst them by indisposition. Their united efforts should be devoted, as zealously as they had hitherto been, for the well-being and prosperity of this society. (Hear, hear). The worthy chairman had expressed an opinion that the society, by the support of the proprietors, would, no do doubt, become one of the first offices in the kingdom, and this he believed from his experience of its principles. (Hear, hear.) He was astonished to see how blind the public were to the advantages of life assurance, when considering the population of this vast metropolis was 2,250,000, and the extent of life policies did not exceed 100,000. Who would then not say that there was plenty of room for this office, as well as for many others. (Hear, hear.) Many, when asked why they did not insure, would reply, that they could not afford the premiums; now, if they could afford to put by for quarter-day, why could they not, with a little prudence, afford to provide for a life assurance, by which they could lay up a provision for their families? Looking at the uncertainty of life, it ought to be a first consideration; in proof of which he could mention a case of their own, where a gentleman was in that room about a week ago in perfect health, and had since died suddenly; how many of us were likely to be taken off in the same manner! Life assurances were now so adapted to the various circumstances of a man's life, that it became almost criminal in any one not to make a provision for his family, when it could be done with facility. (Hear, hear.) They had this advantage in co-operating for the good of the institution, that it was a proprietary one, in the profits of

which all participated, so that a feeling of self-interest must induce them to keep in the right track; and, therefore, he need hardly invite them to exertion, for if they only went on as steadily as they did at present, they would be sure to have a large increase of business by the time of their next annual meeting. (Hear, hear.)

Mr. HESELTINE also begged to return thanks for the honour conferred upon him by his re-election, and, in doing so, he would beg their indulgence, while he called their attention to some of the peculiar objects of the society. Their society had been projected in a time when great panic existed in this country, with a view of making a provision for the families of members at their death, and, in some measure, to provide for those members against poverty. (Hear.) They would recollect that, some two years since, about the time when this company was formed, many houses which had stood the brunt of former trials—which had stood the battle and the breeze for many years—were forced to give way, and suddenly merchant princes of London were called upon to take their places at a lower portion of the great table of human existence. (Hear.) At such a time it was that the Professional Life Assurance Company was established, and its prospectus found the way to many a fireside, where no doubt the peculiar circumstances of the times caused it to be read and considered with the greater interest. (Hear.) One great and distinguishing feature of their company, and it was one which would relieve many families from anxiety at a peculiar time of desolation, was, that their policies should never be disputed. (Hear, hear.) It was felt by the promoters of that company, that it was but just that such inquiries should be made at the time of granting the policy, as to ensure to the party assured that it should never be disputed, and thereby relieve him and his family from an anxiety which too often existed. A second grand principle in their institution was this—and he could not enlarge upon it as it deserved—that so far as they were able to do so, it provided for its members, if any of them should be overtaken by poverty. (Hear, hear.) Their prospectus was calculated, as he had observed, at a time when many large houses were succumbing before the pressure of the times; and if such parties were not exempt from the havoc wrought by such pressure, how essential must an institution of this kind be to the professional man, where, in all probability, his income for the support of himself and family depended on the healthful preservation of those faculties with which the Almighty had endowed him. At the time when their prospectus was sent forth he would ask them whether, if it reached the artist at his fireside, it was not calculated to make him think of the necessity of providing for the future. There was an axiom in Holy Writ, which, no doubt, all had read, though, probably, they had not duly reflected upon it—that although a man might live many years, and rejoice all the days of his life, yet he should recollect that the days of darkness would be many. If they considered that axiom, and the artist was told that when his hands grew powerless, he would (if he belonged to this society), independently of his family being provided for at his death, be entitled to receive relief, not as a charity, but as a right, the means of rendering him comfortable, he (Mr. Heseltine) could have no doubt that it would induce many to join them, and prove a solace in their declining years. (Hear, hear.) Then again—to go from the artist—if they considered the position of the country clergyman, whose life was spent in affording consolation to the wretched and afflicted, how gratifying must it be to know that, when the shadows of evening were closing around him, in this society he would find a friend and protector. (Cheers.) He felt assured that, when the principles on which that company was founded were more generally known, it would at once take a stand second to none in the kingdom. (Cheers.) They had taken new ground. There were many offices for life assurance, but there were none which provided for their members in times of poverty and distress. (Hear, hear.) He believed that, for what success they had attained, they were deeply indebted to their actuary, Mr. Baylis, whose acknowledged experience and undoubted talent, aided by the most indomitable zeal, had enabled them to take the highest ground; and he believed that the greatest eulogy he could pay him would fall beneath the truth. (Cheers.)

Mr. ELDERTON congratulated the society in the acquisition of two important proprietors since their last meeting—he meant Mr. Williams and Mr. Durham—each holding 500 shares in the company. (Hear, hear.) Mr. Williams was a gentleman well known in the City of London, from his connection with the Common Council; and Mr. Durham was a director of the London and County Bank. He presumed that, when the time arrived for submitting the names of these two gentlemen for directors, they would be elected unanimously. (Hear, hear.)

Mr. COOPER moved that E. G. Winthrop, Esq., be elected a director of the company.—Mr. WILLIAMS seconded the motion, and Mr. Winthrop was elected unanimously.

Mr. WILLIAMS said, he had served in the Common Council for 11 years; but he had thought proper to retire. He did not know that he could have done better than throw in his money to the extent of 500 shares, and should now do his utmost to promote the objects of the society. (Hear, hear.) A good deal had been said about self-interest; now, he thought it was the first duty of everyone to study their interest. He knew a gentleman who, when he engaged a man in business, would ask him if he would study his own interest? Oh, of course they would! But it was found that very often they failed in doing so; for, if they did, they would be promoting the interest of others; this was his case in regard to this company. (Hear, hear.) Gentlemen must bear in mind, that all could not be done by the directors—they could only carry on the concern; and it remained for the proprietors to do all they could to promote the interests of the society.

The CHAIRMAN said, that Mr. Durham had been compelled to leave to attend a meeting at the London and County Bank; and had expressed his regret at not being able to wait out the proceedings.

G. Bain, Esq., and G. Evans, Esq., were re-elected auditors unanimously.

The dividend, at the rate of 5 per cent. per annum, was agreed to unanimously.

Mr. HART said, he dare say no gentleman present would like the auditors to work for nothing, especially as a great deal of labour devolved upon them; he would, therefore, propose that they be remunerated at the rate of 10 guineas each for their services.

Mr. COOPER proposed a vote of thanks to their worthy actuary, Mr. Baylis, for the great services which he had rendered this society from its commencement. (Applause.)—Mr. WILSON cordially seconded the motion.—Mr. TEULON supported the motion, which was passed by acclamation.

Mr. BAYLIS said, it was a proud circumstance for him to receive a vote of thanks, but still more so in a cause like the present. He thought it should be the grand object of every good and honourable man to protect the widow and the orphan, and to take care of oneself. (Hear, hear.) It had been very justly said that, in respect to life assurance, there was room for all; and, looking at the principles on which this society was established, he would say that there was room for a vast increase of its business. The mutual principle might be very well, but he thought that a society which had a capital of 170,000*l.* actually subscribed, and was so forward with only 10s. of it paid, was much more entitled to their protection and support. The prospects of this institution were such that, in three months' time, no more shares would be obtained; and it was under this impression that he had taken the opportunity of buying many for his family. (Hear, hear.) The directors were content with the 10s. already paid, and the proprietors might keep the other 10s. in their pockets, for they would make the rest up in bonuses. Many abstained from availing themselves of this institution, under the impression that they should never become blind, mad, or paralytic. A consideration of the 10th rule would impress upon many the value of this society; for, supposing they made 50,000*l.* in the course of five years, they would take 1-10th of that to invest in the hands of trustees, for the benefit of those who, after insuring five consecutive years, might come to want, or their widows. He would conclude by offering his humble testimony to the zealous and honourable conduct of their solicitor. (Hear, hear.)

A vote of thanks was passed to Mr. Elderton, the solicitor. The thanks of the meeting were also voted unanimously to the gallant chairman, and to the other directors, and also to the medical officers in town and country, for their valuable aid to the company.

The CHAIRMAN returned thanks.—Mr. COOPER returned thanks for the medical officers,—The meeting then adjourned.

VAN DIEMEN'S LAND COMPANY.

The annual meeting of this company was held yesterday (Friday), at the offices, Great Winchester-street, City.

JOHN CATTLEY, Esq. (the governor), in the chair.

Mr. HOWELL (the secretary) read the report,—which we are sorry we cannot give, as it was refused on our application.

The CHAIRMAN regretted that what had been said in the report was not more satisfactory; they did progress, but it was only by degrees. The attention of the directors had been devoted to the reduction of expenses, in every shape, for the last two or three years. The proprietors would see the result of this by noticing the amount of the drafts on the company in the past year, which they would find to be only one-half of what they were in the previous year—being 7300*l.* in 1847, and in 1848 only 3600*l.* (Hear, hear.) Amongst the emigrants who had applied to the company was a Mr. White, who was about to take out a steam-engine to the colony, and was now on board the vessel at Gravesend. He was a man who had worked his way up by his own industry, and was now able to pay for his voyage, and had other members of his family going with him, who would take out about 100*l.* each of the savings of their own hard labour. Those persons of diligent habits and sound capital, the directors were anxious to see going to the colony, and would afford them various means of assistance. He was happy to find that the Government were now taking up emigrant ships for Van Diemen's Land; and that, in order to promote emigration to that colony, a sum of 12,000*l.* per annum was to be appropriated for the purpose. He (the chairman) concluded his observations by moving the adoption of the report.

After some discussion, as to the arrears of calls, the CHAIRMAN said, in about three months from this time, a meeting would be called for the purpose of forfeiting those shares on which the two last calls remained unpaid. The proprietors would see by this that the directors did not wish to press unduly upon any one; but they thought that, now the state of the company was beginning to brighten, they might hold out this threat to greater advantage, for it was not likely they could go on keeping shares in arrear till parties, seeing things in a better state, might choose to pay up their calls, which would only be acting with injustice towards those proprietors who paid up regularly. (Hear, hear.)

A PROPRIETOR asked how many shares were under the liability of forfeiture?—The SECRETARY replied 1010. The report was adopted.

After some further observations, the retiring directors were re-elected, as well as the auditors, when the meeting adjourned.

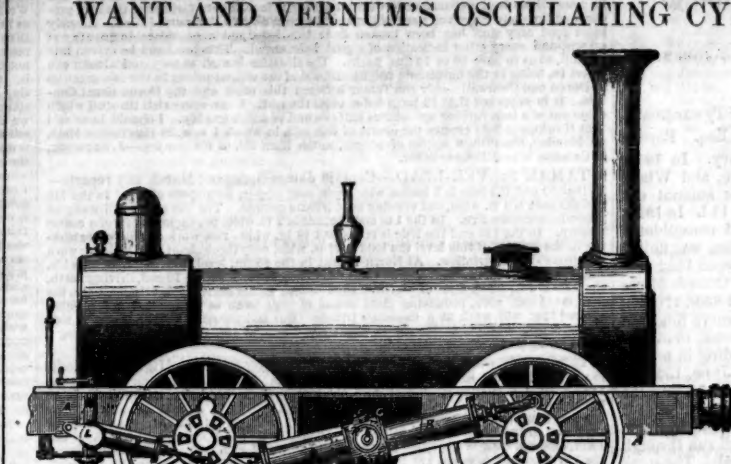
SCREW STEAM-SHIP COMPANY.—A dividend, at the rate of 5 per cent. per annum, was declared, payable on the 10th April, and a balance of 3851*l.* 4s. 1d. carried to the reserve fund. The report was considered highly satisfactory.

NEWRY, WARRENPOINT, AND ROSTREVOR RAILWAY.—The works on this line are rapidly approaching completion. On Monday one of the locomotive engines, intended for the traffic, started, for the first time, from Warrenpoint. There were a number of waggons attached, filled with the workmen. The engine proceeded at a quick rate as far as the rampart, and made several succeeding trips during the day. Mr. Dargan expects to have the line completed early in May next.

OPENING OF THE LIVERPOOL, ORMSKIRK, AND PRESTON RAILWAY.—This line will be opened for public traffic on Monday. It is amalgamated with the East Lancashire Railway, of which it forms a section of some 22 miles. The line would have been completed earlier, but for the constant slipping of a very extensive embankment at Rufford. This opening completes the railway communication between Liverpool, Preston, Leeds, and Bradford.

DIED,—At Whitehall, on Saturday, March 17, Captain William Francis. We have seldom recorded the death of one more generally respected, or more deeply regretted. As a mine agent, Captain Francis had long been known, and his abilities highly prized by an extensive connection. At a very early age some of the most important mines in Cornwall were placed under his management, and the confidence reposed in him was amply justified by his close attention and sound practical judgment. His personal character was marked by frankness of manner, manly feeling, and high-toned principle. A pulmonary disease had long marked him for the grave; but though cut off in the prime of life, the consolations of religion enabled him to bow to the Divine will with perfect composure, and in the joyful assurance of a happy immortality. Captain Francis was buried at Gwenappe, on Thursday, the 22d inst., and was followed to his grave by upwards of 5000 persons.

WANT AND VERNUM'S OSCILLATING CYLINDER LOCOMOTIVE.



In June last a patent was taken out by Messrs. Want and Vernum, for the application of the oscillating principle to the cylinders of locomotive railway engines, of which the annexed diagram, with which we are favoured by the Editor of the *Mechanics' Magazine*, is a representation.

Two pairs of cylinders are employed, as may be inferred from the diagram—each pair consisting of two single cylinders, bolted end and end together—the two pairs being centred on the opposite ends of the transverse hollow trunnion on which they oscillate; and there are two air-pumps, one to each pair of engines. It is considered that this principle is more particularly applicable to heavy locomotives, the weight of one set of cylinders acting as a counterpoise to the opposite set—thus throwing the whole weight of the cylinders upon the trunnion, leaving the crank pins and piston entirely free from the load.

A A, is the frame-work of the engine.

B B, are the two cylinders on one side, with their piston-rods working two sets of driving wheels.

K, is a feed-pump, for supplying water to the engine.

L, the trunnion upon which it oscillates.

The connections between the piston rods and the crank pins are formed by ball and socket joints, so that the oscillations of the carriage may be thereby prevented from injuriously affecting the piston rods and cylinders; E, in the trunnion upon which the pairs of cylinders are centred, and through which the steam is admitted and discharged. For the efficient working of these engines, the patentees state, it "will be necessary, in connecting the two cylinders together, of which each pair consists, that their centre or axial lines should be in the same straight line, and that the trunnian should be bored out at right angles with such line." Should the wear of either the trunnion, or the bearings upon the cylinder bottoms, render any of these parts leaky, it may be remedied by screwing up the bolts connecting the flanges of the two sides of the bearings. When these bearings are bored, a space is left between them by the insertion of a plate of metal, or other hard substance, in order to rectify any defect, by the insertion of a thinner plate than the one originally used.

When the bearings of the axles are rigidly fixed to the frame of the carriage, then the cylinder trunnion must be also securely fixed; but as the bearings of wheel-axles are generally allowed some latitude of play up and down in the framework, it will also be necessary, in such case, to give the trunnion and cylinder a corresponding vertical play, because, if any of the wheels should be raised, from unevenness in the road, the raising of the wheel would bend, or break, the piston-rod. The trunnions are, therefore, placed in slotted bearings, attached to the framework, provided with helical springs above and below the trunnion. The steam-pipe is provided with a packed telescope joint, which admits of the pipe lengthening or shortening according as the trunnion is removed farther from, or nearer to, the boiler by the vertical play allowed it in the bearings. Light locomotives may be constructed, with one pair of single cylinders, one on each side; or a single cylinder at one end only may be used, with a weight at the other to balance it.

GAS FROM WATER.—On Monday evening some of the principal gas consumers in the city assembled at No. 113, London-wall, to witness the process of producing gas from water and resinous substance. Mr. Francis Wakefield, of Basford Iron Works, explained the principle in a very lucid manner, and read the following letter:—

"Dear Sir—I have now had the gas apparatus you put me up at work nearly two months. I still find the light clear, brilliant, and free from any unpleasant smell or sulphurous vapour. My men, and the workpeople of the parties I have been supplying with your gas, experience no disagreeable sensation, headache, smarting of the eyes, &c., which is a great relief after the coal gas. It is very cheap. I do not consider the expense of making more than 1s. 3d. or 1s. 4d. per thousand cubic feet. As the resin, after making the first time, condenses in the cooling-box, I am able to use the contents of the box again, by adding 3lbs. of fresh resin to two gallons of the condensed material, and still keep up the quality of the gas. I have made, on an average, 15000 ft. per night—about 72,000 cubic feet of gas since the apparatus was first put up. I shall be happy to state these facts to any one requiring the same.—J. MINNITT: *Nottingham, March 17.*"

Mr. Harvey pointed out the advantages to the large gas consumers of the city, and the mode by which parishes, wards, or even separate streets or single establishments, might be advantageously and profitably lighted by small companies or individuals, and explained how hydrogen gas from water alone might be employed for domestic purposes, where heat and not light was required.

A NEW SPECULATION.—A project has just been announced under, it is said, "the influence of English enterprise," which is distinguished by some very novel, if not attractive features. It appears after a "minute investigation," to have been ascertained by Mr. Neville Warran, an engineer, and Messrs. John and Charles Watt, practical analytical chemists, that granite stone extends over a district of 70 miles, between Dalkey and Wexford, the external surface of which contains a considerable proportion of potash. The announcement goes on to say that—"It is proposed, under their advice, to construct materials for the chemical operation required to extract this valuable alkali from granite, by which means, upon an outlay of 10,000*l.* capital, they calculate upon realising a gross revenue of 40,000*l.*, the greater portion of which would be expended in labour in the district of Kingstown. It is estimated that there are 2000 tons of potash, the produce of America, consumed annually in England and Scotland, the present cost of which is 40*l.* per ton, and that, by working the granite of Dalkey, which extends inland to Sandyford, the same quantity could be extracted by means of the capital referred to, and sold at 20*l.* per ton, yielding a revenue of 40,000*l.* to remunerate the capitalist, and diffuse the blessings of employment amongst the people, and not only render it quite impossible for the Americans to compete with the Irish, but really push an Irish trade in potash into the American Continent.—*Irish Railway Gazette.*

BOILER EXPLOSION AT PRESTON.—In the *Mining Journal* of Aug. 5, 1848, we noticed an awful case of boiler explosion, at a mill belonging to Messrs. Cooper and Garrington, at Preston, by which great injury to the property and loss of life took place. The coroner's jury brought in a verdict of "manslaughter" against R. Fogg, an overseer in the mill, who had the management of the engine; and on Monday last, the 26th inst., he was brought up for trial before Mr. Baron Alderson, in the Crown Court, at the Liverpool assizes. It appeared, from the evidence of Mr. Clayton, the engineer, who made the boiler, that the engine was of 26-horse power, and the boiler might be safely worked at 12 lbs. to the inch; it was, however, quite common for Fogg to work it at 20 lbs. to the inch, and raise the power of the engine to 40 or 50-horse. Mr. Clayton, with Mr. Stephenson, had examined it, and found the safety-valve would not blow off under 20 lbs. per inch; and they, therefore, recommended some pipes in the boiler, from which, as soon as the steam got above 12 lbs. pressure per inch, it escaped. The prisoner was constantly warned of the dangers of working at such high pressure, and Mr. Garrington also, but no attention seems to have been paid to it. He had the safety pipes taken away, and continued to work the engine in the same reckless manner until the 31st July, when it burst, and seven or eight persons were killed. Baron Alderson said, unless Serjeant Wilkins could alter the facts of the case, he did not see the use of going further, as the jury must find him guilty, for if a person caused the death of another by his wrong-headedness, he was guilty of manslaughter. Mr. Knowles, for the prosecution, said the Government did not wish to press harshly upon the prisoner, but they wished the law to be known as extensively as possible by persons similarly situated. Mr. Serjeant Wilkins said, he could not materially alter the facts, and he should advise him to withdraw his plea, and plead "guilty." The jury then found the prisoner guilty of manslaughter. The judge said that, as Mr. Garrington was precisely in the same situation as the prisoner, compensation should be made to the sufferers; and being informed that was now under reference, sentenced the prisoner to be fined 5*l.*, and enter into his own recognizances in 100*l.* to keep the pence and be of good behaviour for the space of two years; the sentence was complied with, and the prisoner discharged.

ACCIDENTS.

Dowlais.—John Jones was killed at one of the levels of these extensive works, by a fall of stone and rubbish from the top.

Hebburn Colliery.—As two pit lads, named Rennie and Mackensie, were descending the shaft in the cage, the rope broke, and they were killed.

Cleveland.—As Francis Heselton, a labourer at the Boulby Alum Works, and several other men were at work in the mine, a large quantity of earth and stones fell from the cliff, and so seriously injured him that he died in an hour after the accident.

Dudley.—As T. Hayward and W. Eccleston, were employed "holing" in a stone pit belonging to Coneygreves Colliery, at Dudley Port, about 5 tons of mine fell from the roof, killing them on the spot.

Wednesbury.—E. T. Darlington was killed by a fall of stone while at work in a pit at the King's Hill Colliery.

Frightful Accident.—Mr. John Lace, jun., of Ulverston, who a few weeks ago sustained a severe accident, by slipping into a mass of molten iron ore, or dross, at the Powkabeck Iron-works, died on Sunday night week, after lingering from the date of the occurrence in great agony. He was 25 years of age.—*Cumberland Pacquet.*

Fatal Accident—Brave Conduct.—A fearful accident happened near Wheal Maria Mine, in Tavistock, on the 19th inst., under the following circumstances:—A great number of the miners who work at the above-named mine, have to cross the river Tamar daily, to and from their labours, the water at the usual place of crossing being about 18 feet in depth, arising from a dam being erected for the purpose of working machinery at South Wheal Maria Mine. A boat is provided by the Great Wheal Maria Company, for the conveyance of the men who live on the opposite side. On Monday evening 13 men got into the boat, and had not proceeded above 18 feet, when the boat turned over, and the men were immersed in the water. Two of them swam ashore, one of whom, a Cornishman, named Thomas Carne, seeing the danger of his comrades, took off his coat, and without hesitation, plunged into the water, and brought out two of the unfortunate fellows at one time, and seeing seven others struggling and clinging together, he boldly, at the peril of his life, plunged again into the river, but just as he had reached his comrades they sank; he, however, dived after them, and succeeded in bringing them to land. The poor fellows were locked fast together by each other's legs and arms. Two others had sank, and the brave fellow who had saved the lives of nine of his comrades, would have dived after them also, had not the deepness of the water prevented him from seeing where they lay. The drags were immediately used, their bodies were brought up, but life was extinct, as they had been in the water about 20 minutes. Carne deserves the highest praise, for had it not been for his intrepidity, it is most probable the whole would have been drowned. This is a case for the consideration of the Royal Humane Society, who would, no doubt, on the circumstances of the case being mentioned to them, reward the conduct of the brave fellow, who risked his own life to save those of his fellow-creatures. The names of the men who lost their lives were Pascoe and Polkinghorne.—*Penzance Gazette.*

Kelley Iron-Works—Wonderful Preservation of Seven Men from Death.—On Thursday, the 15th inst., just after the engine had started to let down a company of men at Mr. William Teague's pit, the chain broke from the engine, and the poor men, seven in number, went to the bottom, and more than 140 yards of chain followed, which fell into the pit. The consequence was, that most of them were more or less injured. One of them had his arm broken in two places; but it is altogether a marvellous event that they were not all killed. Mr. Teague's eldest son had previously been let down to light candles, and fortunately escaped unhurt.—*Shropshire Journal.*

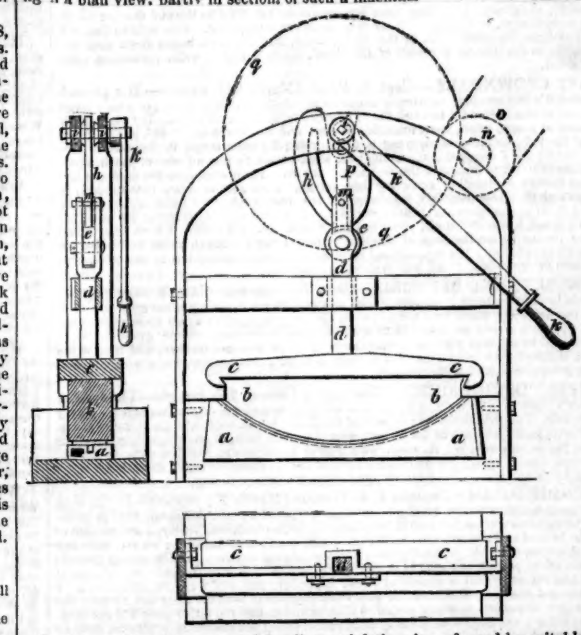
Coal-Pit Accidents.—An explosion of fire-damp took place in the coal pits of Richard Swallow, Esq., at Mosbro', by which Henry Pearson, of Ridgeway, was dreadfully burnt—death ultimately put an end to his sufferings.—Another explosion took place in the same pits by a naked candle being thrown down; an alarm being instantly given, the men at work rushed to the bottom of the shaft by a lower road through the water, and were drawn out with the greatest difficulty in a nearly exhausted state; the doors in the air gates in the pit, and the wood work in the shaft, were partially destroyed by the fire. The head gearing was partly removed, and portions of coal in the pit burnt to a cinder. The pit is about 200 yards deep.—*Derbyshire Reporter.*

MACHINE FOR BENDING IRON PLATES.

[Specification of patent obtained by Mr. T. B. Turton, of Sheffield, steel manufacturer, for improvements in machinery for bending and fitting plates or bars of steel, iron, and other materials, to be used for locomotive engine and carriage springs, and other purposes.]—*Civil Engineer and Architect's Journal.*

The first part of this patent relates to a machine for bending plates or bars of metal by means of three rollers placed vertically, to be driven by steam or other power, and is for the purpose of superseding in a great measure the manual labour now employed for bending or fitting carriage springs.

The second part of the invention relates to another machine for the same purpose; of which fig. 1 is a front elevation, fig. 2 a transverse section, and fig. 3 a plan view, partly in section, of such a machine.



In this machine the process of bending and fitting is performed by suitable shaped blocks, the lower one, *a*, remains stationary when the machine is being used, and the upper one, *b*, is lifted up to allow the bar which has been bent to be removed, and an unbent bar to be put in its place; the upper block is attached to a plate, *c*, to which is secured the guide-rod, *d*. Near the upper extremity of the rod, *d*, is the antifriction-roller, *e*, against which the cam, *h*, works when the top block is being pressed down upon the plate or bar to be bent. The cam, *h*, is fixed on a shaft, *i*, and is provided with a segmental slot, through which and through a fork made at the top of the guide-rod, *d*, a pin or bolt, *m*, is passed; to the strap, *i*, is also fixed a long lever, *k*, by means of which the machine is worked. When the attendant elevates this lever, the upper block is raised by means of the bolt or pin, *m*, above described, and when the bent plate has been removed, and another plate substituted between the blocks, the attendant, by pressing down the lever, *k*, causes the cam, *h*, to bear upon the antifriction-roller, *e*; and by this means the top block is depressed, so as to give the proper curve to the plate or bar between the blocks. If it should be found more convenient to work this machine by steam or other power, instead of by the lever, *k*, and its adjuncts, a wheel, *q*, represented by a dotted line in fig. 1, should be keyed on the shaft, *i*. This wheel would be driven by the pinion, *n*, fixed on the same shaft as a pair of fast and loose pulleys, *o*, the cam, *h*, would have to be replaced by a crank, to which the upper end of the connecting-rod, *p*, would be attached, and the lower end of the connecting rod would be attached to the guide-rod, *d*. It will be evident that by changing the blocks, *a* and *b*, any variety of curve may be given to the plates or bars under operation. It is necessary to remark that the block, *a*, is provided with a groove to admit the nibs of the spring-plates, as seen in figs. 1, and 2.

The construction of the frame for supporting and guiding the various parts of this machine does not require to be particularly referred to, being well understood by any competent workman.

BRISTOL AND BIRMINGHAM RAILWAY.—The strengthening of the permanent way of this line from Gloucester to Birmingham has been completed to an extent of 16 miles. The rails are of a weight of 84 lb. to the yard, where before they were only 40 lb.

EAST ANGLIAN RAILWAY.—The opening of the extension from Dereham to Fakenham took place last week, extending the system a distance of 24 miles in a northerly direction towards Wymondham, through an agricultural country, accommodating a population of some 60,000 persons. There are to be three trains a-day to and from London.

SOUTH DEVON RAILWAY.—This company's extension into Plymouth is now completed. The atmospheric tubes, which cost originally 11*l.* per ton, have been disposed of at 2*l.*, and a special meeting is to be held to consider a proposal for paying off the debenture debts, by substituting a railway stock in shares of 2*l.* each, bearing interest at 5 per cent.

The Compendium of British Mining.

ORIGINALLY COMPILED AND PUBLISHED IN 1843.

REVISED, CORRECTED, AND ENLARGED FOR THE "MINING JOURNAL,"

BY J. Y. WATSON, ESQ., F.G.S.

FOWEY CONSOLIDATED COPPER MINES, in the parish of Tywardreath. In 512 shares, principally in the hands of J. T. Treffry, Esq. Purser, W. Davis, Esq., Capt. R. M.; managing agent, Capt. Puckey. In 1813, these mines, then called Wheal Treasure, Wheal Fortune, and Wheal Chance, commenced working, and stopped in 1819. The amount expended on them during that time having been 49,563*l.* 16s. 11d. In 1822, they were purchased by J. T. Treffry, Esq., of Fowey, and consolidated under the above title. In 1836, Lanescot, an adjoining mine, was united with Fowey Consols, this mine having divided 45,000*l.* between 1822 and 1832. From August, 1815, to the end of 1841, the Fowey Consols Mines returned 234,486 tons 8 cwts. 2 qrs. of copper, fetching 1,422,633*l.* 17s. 1d., out of which the profit paid to the adventurers, with a reserve fund not divided, amounted to 179,995*l.* 11s. 6d. From 1842, to June, 1848, the returns from the mines were 56,081 tons of copper ore, yielding in money 304,254*l.* 3s. 6d. In the first-named year—that is, from June, 1842, to June, 1843—the produce was 12,755 tons, yielding 72,757*l.* 3s. In the latter, from June, 1847, to June, 1848, 6610 tons, yielding 37,265*l.* 3s. 6d. During the prosperity of this mine, there were five engine-shafts in course of sinking, and 20 lodes worked upon, the principal of which run through the sett for nearly two miles, and 1792 persons were employed. The stock on the mines, engines, materials, &c., was then valued at 60,000*l.* There are six steam-engines at work, of altogether 302-horse power; 17 water-wheels, of 484-horse power; and 3 hydraulic engines, of 119-horse power.

[*To be continued in next week's Mining Journal.*]

Mining Correspondence.

BRITISH MINES.

BARRISTOWN.—Capt. Thomas Angove (March 24) reports—We have still the slide in the 16 fm. level end east, and I do not see the advantage of driving it further till we discover the lode east of the slide, in the adit level, as there cannot be a doubt but it is the same slide; the ground in the south cross-cut, in the adit level, is rather better for driving, and has more the appearance of the western ground what we have seen for a few fathoms; the lode west of the slide, in the 16 fm. level, looks well—producing over one ton of lead per fm.; the bottom of the adit level also looks well for ore; in the winze, sinking in the bottom of the 16 fm. level, the lode is large, and well mixed with lead; I expect the lode will improve as we get down in this winze.

BEDFORD UNITED.—Capt. J. Phillips (March 28) reports—At Wheal Marquis, there is no alteration in the 103 fm. level east. The lode in the 90 fm. level east is 2 ft. wide, yielding good saving work; and in the winze in this level, the orey part of the lode is 3 ft. wide, and worth 80*l.* per fm. There has been no lode taken down in the 70 fm. level east.

BRYN-AR-IAN.—Capt. Sampson Trevethan (March 27) reports—The lode in the engine-shaft, sinking under the deep adit level, is 5 ft. wide, composed of spar, killas, and lead ore, and producing about ¼ ton of ore per fm. The lode in the winze, sinking under the adit level, and 17 further west than the shaft, is 6 ft. wide, with a mixture of lead ore, yielding about 10 cwts. to the fm. The lode in the adit level, driving east from the shaft, is 7 ft. wide, 3 ft. of which we are carrying. The level is rather poor at present, although we have left a good orey back not more than 3 fms. behind the end; we shall shortly arrive at the place where there is some old workings going down from the surface, and where ore is to be seen.

CWM ERFIN.—Capts. A. Francis and S. Nicholls (March 24) report—Our 20 east is at present worth from 15*l.* to 20*l.* per fm., and in a good settled lode; the stope behind this end is yielding from 10 to 12 cwts. of ore per fm., and the orey part seems to 1 eto the north of where the lode was driven; in the rise over the 20 fm. level west we have made a communication to the sink under the 10 fm. level; the men are now stoping east and west, the lode turning out from 8 to 10 cwts. of ore per fm. The stope over the 10 fm. level, west of whim-shaft, is rather poor. We have connected our machinery at the whim-shaft, and got the water in fork to the 20 fm. level; it will take most of the coming week to case down the shaft, and get it in proper order for drawing; we then intend putting four men to drive west, and two men east. We are drawing and dressing as fast as we possibly can. The lode in the level on the western hill is about 2 ft. wide, with a few spots of ore in it.

DEVON AND COURTENAY.—Capt. N. Seccombe (March 27) reports—The lode in the end driving west of the 40 fm. level is spotted with ore, though at present small; the ground is getting more favourable for driving; in the end driving north on the cross-course, in this level, there is no lode yet discovered. The lode in the end driving east on the south lode, in the 50 fm. level, has not been taken down since my last report; in the rise in the back of this level, the lode is 3 ft. wide, producing good saving work.

EAST CROWNDALE.—Capt. S. Paull (March 24) reports—The ground in Diamond's engine-shaft continues much as usual—a clear blue killas, of a very large congenial character for tin to exist in. Thomas's lode, in the adit level, driving west, is composed of peach, prian, spar, mundic, gossan, and tin, worth about 40*l.* per fm.; the part of the lode we are now carrying is 5 feet wide; Tippet's stope, in the back of this level, is improved in appearance in the past week—the lode is composed of peach, spar, prian, mundic, white iron, and tin, worth 35*l.* per fm. Paull's stope, to the east, is without any material alteration since my last report. I am glad to state, that the lode in Thomas's shaft is considerably improved in the past week; we have been carrying about 4 ft. of it, composed of peach, mundic, killas, and tin, worth about 30*l.* per fm.; the adit level, under this shaft, being beyond it west several fathoms, I have determined to raise through from the back of the level—there being too much water in the shaft to sink with expedition. We commenced burning tin on Wednesday last in the new burning-house of two ovens, which was erected in a fortnight.

KINGSETT AND BEDFORD.—Capt. John Spargo (March 28) reports—The lode in driving north is improved, out of which we are breaking some good stones of lead; the lodes in general look well, and we shall in a day or two again commence rising in the Bedford, where we have been opening some very good tribute ground; but I think it will be the best plan to continue rising a few fathoms further, and then drive south; we shall then be in a position to stope both back and bottom, when we shall soon have a good pile of lead at the surface.

KIRKCUDBRIGHSHIRE.—The agent (March 24) reports—The lode in Stewart's shaft is 3 ft. wide, composed of soft spar and stones of ore through it—a very kindly lode. The lode in the 50 end, east of Stewart's, is 4 ft. wide, with good stones of ore mixed with jack; the lode in the 50 end, west of Keith's, is small and unproductive. The lode in the 40 end west is 5 ft. wide, with a good leader of ore, worth 8 cwts. to the fm.—a strong kindly vein. The rise in the back of the 20, under Crouch's shaft, has a small lode of killas and spar. We have shipped off 45 tons of ore to-day.

MENDIP HILLS.—Captain F. C. Harpur (March 26) reports—In the slag department we have a very good pile of slags prepared for the furnaces, I think quite equal in value to any we have hitherto smelted; in Charterhouse Valley, I am pleased to say, the beds of stuff, which are about 16 ft. thick, continue to improve; we are, with our limited number of hands, producing about 30 cwts. of slags per day. In Ubley slag ground, the men are at present engaged in removing the top rubbish from the beds of stuff named in my last report, which is excellent work, far better than any we have before seen. I have cleaned and assayed during the past week samples of both the slags and slimes; the former is worth about as much as that of Charterhouse, and the latter gave 57½ per cent. of pure metal; the carpenter is busily engaged in fixing the necessary erections, such as strakes, machines, buddlers, &c., for dressing the same.

POLSAITH CONSOLS.—Capt. John Seymour (March 28) reports—Having recently inspected this mine, I beg to send you the following report:—My attention was first drawn to the lode in the adit level, Trebetherick side. Here I found the lode to be from 18 in. to 2½ ft. wide, regular and compact, a greater part of which, both above and below the level, so far as could be sunk for the water, had been extracted by the former workers. About 5 fms. below the bottom of the adit a hard bar of ground was met with, which much disordered, and, indeed, almost extinguished, the lode. I next inspected the 12 fm. level, which has been driven by the present adventurers some 27 fms., 20 fms. of which is through a large lode, yielding from 15 cwts. to 1 ton per fm., worth from 11*l.* to 12*l.* per ton. This was principally taken from the bottom of the level, and about 2 feet above, and there appears to have been a very good lode gone down the whole length of the level. The lode in the present end is fully 2½ ft. wide, composed of can, sugar-spar, quartz, and lead, yielding about 1 ton of lead per fm., and indicative of improvement as it progresses. The ground is quite congenial for lead, and can be wrought at a comparatively small cost. There are many small leaders of lead interspersed throughout the country, all making into the lode. The shaft is sunk about 3 fms. below this level, on this side of the workings, in a beautiful stratum of killas. I consider that, by sinking this shaft to the 22 fm. level, and cross-cutting the lodes at this level, the mine will then be in a position to pay the fortunate adventurers a handsome dividend. I have little doubt that, if the operations were confined to driving the end and sinking the shaft, the returns from the end itself would cover the whole expense. At the Tinner's Hill side, the adit level is driven about 70 fathoms on the course of the lode, which will average about 7 ft. wide throughout the driving, composed of rich gossan, can, spar, &c., and occasionally large stones of lead. I can pass no other judgment on this part of the operations than that I consider it an exceedingly kindly lode. This side of the sett is bounded on the north by the celebrated Pentireglaze Mine, which is at present so productive.

SOUTH DOLCOATH.—Capt. Peter Floyd (March 26) reports—On Saturday last I was at this mine, and set the engine-shaft to sink below the 50 fm. level, likewise the 50 and 40 fm. levels to drive west, and the 40 east. I have also put men to sink costean pits, so as to be enabled to know what length of ground we shall have to drive through before intersecting one of the Condurrow lodes. We have about 60 fms. to drive before reaching the cross-course in the 40; in the 50, about 70 fms. Our monthly cost will be about 90*l.*

SOUTH WHEAL JOSIAH.—(March 20).—As some of the shareholders in this speculation had a desire that I should survey this sett for them, and examine the character of the lodes, as far as they are explored, I accordingly, this day, went over the sett, in company with Capt. Hambley. My attention was first drawn to a lode opened on in a shode pit, near the village. This appears to be in a broken up and confused state, embedded in a beautiful elvan course. There are many large branches, within about 3 fms. from north to south, composed of gossan, mundic, quartz, peach, spar, &c., but unkindly for copper; no doubt these branches will form one lode at a deeper level. My next object was a large seam, 30 or 40 fms. to the south of this, discovered in the same manner as the other: this lode is regular, compact, and quite healthy looking, composed principally of strong gossan, spar, peach, prian, and some spots of copper—a very kindly lode. A shaft can be put down on the course of this lode from 30 to 40 fms. deep: were this attended to immediately, some important discoveries might be made, to pay for the outlay, before the coming summer ends. The lode being embedded in a congenial strata of elvan and killas throughout all of this sett, for a mile and a half in length on the run of the lodes, is one of the most congenial for copper and tin I ever saw. My next object was a lode in the adit level, a little above the river: this is taken to be Thomas's lode, in Devon Great Consols; be that as it may, it is of no consequence; it is very kindly, and its composition is of a character to warrant a good lode as it gets further in the hill, precisely of the same nature as some of the stuff I saw in Wheals Maria and Josiah. Already some good orey stuff has been broken from this lode, and a considerable quantity of greens, and every other indication of a good lode ahead. This level can be driven into the hill, so as to have 60 or 70 fms. backs. The situation is such as no practical man can object to, being in the immediate neighbourhood of the richest mines in the two counties of Devon and Cornwall—only the Tamar between this mine and the Devon Great Consols. It is supposed that 12 large lodes cross the sett. I saw some rich tin stuff which came out of a lode further up—stones half tin, and of a rich quality. I should have said that Hawkmoor lode crosses the centre of this sett, in which I saw, in Hawkmoor Mine, on Monday, the 19th, a course of copper, worth from 35*l.* to 40*l.* per fm.—J. SETMOUR, of Caradon Wheal Hooper Mine.

TAMAR SILVER-LEAD.—Captain James Sprague (March 26) reports—In the 190 end the lode is 6 inches wide, composed of spar, with spots of ore. In the 175 end the lode is 1 ft. wide, and opening good tribute ground. The 160 end is in disordered ground—unproductive. In the 145 end the lode is 2 ft. wide, producing work of a coarse quality. In the 135 end the lode is still about 18 in. wide—rich work; in the winze sinking in the bottom of this level the lode is 3½ ft. wide, orey throughout, and yielding work of a promising description. At North Tamar, in the 80 fm. level, the lode is 18 in. wide, composed of peach, mundic, and ore, but not to any value. In the 70 end, driving north, the lode is 4 ft. wide, 6 in. of which is good work; in the same level, driving south, the lode is 2½ feet wide, producing good stones of ore; both of these ends are opening ground that will work at a moderate tribute. Our last parcel of February ore, 91 tons 2 cwts. 2 qrs., was sold to Messrs. R. Michell and Son, at 19*l.* 10s. 6d. per ton, leaving a profit for February of 395*l.* 11s. 1d.

TINCROFT.—Captain P. Floyd (March 26) reports—On Highburrow lode, in the 152 fm. level, east of engine-shaft, the lode is worth 8*l.* per fm. for tin. In the 142 fm. level, east of Martin's east shaft, the lode is worth 12*l.* per fm. for tin; the stopes in the back of this level, east and west of the shaft, are worth 16*l.* per fm. for tin. The 132 fm. level, east of Martin's east shaft, is worth 20*l.* per fm. for tin; the lode in the west end, in the same level, is worth 14*l.* per fm. for tin; the stopes in the back of this level, east and west of the shaft, are worth 16*l.* per fm. for tin. The winze sinking below the 120 fm. level is worth 17*l.* per fm. for tin. On Chapple's lode, in the 100 fm. level, west of Downright shaft, the lode is worth 6*l.* per fm. for copper. In the 90 fathom level west the lode is worth 18*l.* per fm. for tin and copper; in the winze sinking below this level the lode is worth 12*l.* per fm. for copper. In the winze sinking below the 80 fm. level the lode is worth 12*l.* per fm. for tin. In Blight's shaft, sinking below the 90 fm. level, the lode is 3 ft. wide, with stones of copper ore. Chapple's shaft, sinking below the 72 fm. level, on the south lode, is worth 8*l.* per fm. for tin and copper. At Palmer's shaft, on East Pool lode, in the 90 fm. level west, the lode is 1½ ft. wide, with stones of copper ore. In the 80 fm. level west the lode is worth 9*l.* per fm. for copper. At North Tincroft, the lode in the 100 fm. level west is worth 8*l.* per fm. for copper; in the 100 fm. level east the lode is worth 8*l.* per fm. for copper. In the 90 fm. level east the lode is worth 9*l.* per fm. for copper; in the 90 fm. level west the lode is worth 18*l.* per fm. for copper. In the 80 fm. level, west of Willoughby's shaft, the lode is worth 12*l.* per fm. for tin; in the winze sinking below this level the lode is worth 6*l.* per fm. for tin and copper; in the winze sinking west of engine-shaft, below this level, the lode is worth 9*l.* per fm. for copper. At Wheal Providence, the lode in the 33 fm. level, east of engine-shaft, is 2 ft. wide, with spots of ore, not to value.

TREGORDEN.—Captain W. Bryant (March 22) reports—The 20 fm. level, north of engine-shaft, is extended 13 fms.; the lode in the end is 1 ft. wide, composed of spar, capel, and carbonate of iron, interspersed with silver-lead ores; judging from the nature of the lode, and the ground about it in this end, I anticipate we shall have an improvement shortly; the 20 fm. level south is extended 11 fms., where the lode is 2½ ft. wide, composed of flookan, capel, friable quartz, and carbonate of iron, interspersed with silver-lead ores; I consider the lode throughout this level to be of a very promising character, although not rich. The 12 fm. level is extended north 7 fms., the back and bottom of which will pay well for stoping; the lode in the end is 2 ft. wide, composed principally of friable quartz and lead, worth 5*l.* per fm.—price for driving 24s. per fm.; we have just commenced driving south in this level, where the ground is easy for working, and the lode orey throughout. The stamping-machine is erected with six heads, and works remarkably well. Nearly all the work raised in sinking the shaft, and driving 7 fms. in the adit, is stamped, which, I expect, will be dressed in three weeks, and will produce 5 tons of ore, worth above 20*l.* per ton. The north shaft is again drained, which we shall resume sinking shortly; and, although not more than 4½ fms. from surface, we shall be able to break ore that will pay well for stamping. I consider the prospects, on the whole, are still very encouraging, and hope the time is not far distant when the shareholders will be remunerated for their trouble.

TREHANE.—Capt. S. Richards (March 22) reports—Kelly's shaft is down 11 fms. below the 55 fm. level. We have 2½ fms. more to sink to get as deep as Trelawny next level, which will take three weeks to accomplish, if the ground should continue as at present—being now more favourable than it has been for some time past; the branch that we cut through in the shaft, about 7 fms. below the 55 fm. level, which I mentioned in my report at the last meeting, has been reported to be the lode; but this cannot be proved before we get down to the next level, and drive a cross-cut west to a point where, taking an average of the underlie of the last 20 or 30 fms., we may expect to find it, which point we may probably reach in about a week after the shaft is down; in the 55 fm. level north the lode is 2 ft. wide, composed chiefly of can and lead, worth a quarter of a ton of lead per fm.; the stopes in the back of this level are without any material alteration since last report—producing, on an average, about 9 cwts. of lead per fathom. The lode in the 45 fm. level north is 2½ ft. wide, composed of capel, can, and lead, worth 6 cwts. of lead per fm.; the lode in the stopes, in the back of this level, is producing 8 cwts. of lead per fm. There is no change of importance to speak of in the cross-cut west in the 30 fm. level; we are still in killas ground, and moderate for driving. We shall sample, on Saturday next, about 74 tons of ore of very rich quality.

TRELEIGH CONSOLS.—Capt. W. Symons (March 24) reports—Garden's shaft, below the 113 fm. level, is sinking in the country. In the 113 fm. level, west of ditto, lode nearly 6 ft. wide, with occasional stones of ore and mundic. In the 100, west of ditto, lode 18 in. wide, producing a small quantity of ore. In the 80 west, cross-cutting ditto to a north part of the lode, the distance is still uncertain. In the 60, west of ditto, lode about 3½ ft. wide, more promising, and will produce 1 ton of ore per fm. At Wheal Parent shaft, below the 20, we are putting in penthouse, &c., preparing to sink below. In the 20, east of ditto, lode 2 ft. wide, producing good stones of ore, and very promising; in the 20, west of ditto, lode about 2 ft. wide, looking more kindly. The winze below the adit is suspended, being poor.

WEST WHEAL JEWEL.—Captain Richard Johns (March 26) reports—In Williams's cross-course, on Wheal Jewel lode, the lode is 1 ft. wide, producing stones of ore. In the 57 fm. level, west of Williams's cross-course, on the same lode, the lode is unproductive. The winze in the bottom of the 47, west of Williams's cross-course, on the same lode, is communicated to the rise in the back of the 57 fm. level; the lode is worth 5*l.* per fm. In the deep adit, west of Williams' cross-course, on the same lode, the lode is producing stones of ore. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 18 in. wide, producing stones of tin. In the stopes, west of Pryor's winze, in the back of the 12 fm. level, on Tolcarne tin lode, the lode is worth 25*l.* per fm.; in the stopes, east of this winze in the back of this level, the lode is worth 15*l.* per fm.; the stopes in the bottom of this level, east of Tregoning's winze, are worth 25*l.* per fm.

WHEAL VINCENT.—Capt. John Spargo (March 28) reports—We have cut the lode in the streamer's deed cutting, west of the engine-shaft, where we consider the large stones of tin broken off from that I mentioned in my last report; the lode is about 2 feet wide, of an excellent quality. We are breaking some rich stones of tin, of the same nature that I sent to one of the adventurers last week. I cannot by this report exactly state the underlay of the lode, as it is cut very shallow, in a soft decomposed granite; all I can say, the work we are breaking is of a very rich quality. The carpenter is engaged in fixing the machinery as fast as possible, such as the main rod, bobs, &c. Our lobby is home within a few feet of the wheel pit, and we are making every effort to complete our work as fast as possible, so as to get the wheel at work.

WHEAL SARAH.—Capts. J. Spargo and T. Trevarten (March 29) report—We have again recommenced the deep adit, so as to drive to unwater the 20 fm. level. When this is done, it will be of great importance to the mine; and our opinion is, that we shall be able to sink the old engine-shaft by the power of the south wheel 20 fms. deeper than at present. A 5-inch bob will be quite sufficient to keep the water after we unwater the 20 fm. level by the cross-cut; the water in the 20 fm. level is very fast—so fast, that we have been obliged to put in two lifts, one 11, and the other 9, to keep the water at the 20, and find this but barely sufficient with the top power. When the adit is up, we shall be able to sink more in a dry season, and I hope prove the mine effectually, even without the power of steam; but should there be a steam-engine required, which I am aware there will not for a long time to come, this will be a great benefit, as it will be a great saving of coal, &c. The present appearance of the mine we consider very flattering, especially the 20 fm. level south; this level is 48 fms. south of the old engine-shaft—all of which, both back and bottom, is good tribute ground; and it is our joint opinions that, after the cross-cut is up, so as to unwater it, it will immediately give a dividend of from 70*l.* to 80*l.* per month to our proprietor, John Mayhew, Esq., of Coggeshall, Essex, who, we are given to understand, is whole and sole adventurer, and who visited the mine himself a few days since. The depth of the mine at present is only 10 fms. under the adit now commenced; therefore, we anticipate a greater improvement in the lode in the next level. I beg also to state that, by unwatering the 20 fm. level, our machinery will be of sufficient power to sink on the western lode, which is more than 3 ft. wide, carrying a fine lead gossan. We are now engaged in dressing the lead broke in driving the 20 fm. level. I have, a few minutes since, veined or cleaned some of this work, and find it of an excellent sample, much better than we expected. We have on the floors several tons of lead ready for the market, and still continue dressing. We consider the lead of a better quality, and much richer for silver as it leaves the gossan. The lode, after leaving the gossan, comes into a beautiful light clay-slate, naturally soft for working.

WHEAL TRELAWNY.—Capt. John Bryant (March 27) reports—There is no material change in Phillips's shaft since my last. The lode in the 72 end north is 3 ft. wide, chiefly can and lead, worth 15*l.* per fm.; the lode in the rise in the back of this level is worth 10*l.* per fm.; the lode in the 72 end south is 2 ft. wide, and worth 8*l.* per fm. The lode in the 62 end, north of this shaft, is 4 ft. wide, composed of horn-spar, can, and lead, worth 10*l.* per fm.; the lode in the south end, in this level, is 1 foot wide, and worth 7*l.* per fm.; the lode in the winze sinking under this level is worth 12*l.* per fm.; the stopes in the back of this level are, on the whole, looking pretty well. Trelawny's shaft is sunk 13 fms. below the 52 fm. level, where the ground is much as it has been found for three weeks past. The lode in the 52 fm. level, north of this shaft, is 3 ft. wide, and worth 18*l.* per fathom; the stopes in the back of this level, and in the 40, are looking very well. At the north mine, having met with water in Smith's shaft, we resumed sinking the winze near Trehane boundary, which is nearly dry, where the lode is worth 5*l.* per fm. In the 30 end, north of this shaft, we are still driving east, and having a great quantity of water, we expect to meet with the lode shortly. The parcel of ores, computed 104 tons, was sold yesterday, to Thomas Somers, Esq., at 19*l.* 7s. 6d. per ton.

FOREIGN MINES.

AUSTRALIAN MINING COMPANY.—*Tunghillo Mine, Nov. 3.*—Copper ores sent to Port Adelaide, in all, 260 tons; ready for transit, now on the floors, 10 tons; not dressed, small ore 30 tons; in the mine, not wheeled out, 8 tons—328 tons of best ores.—On the floors, available for smelting (say) 120 tons; number of men, 70.—We have now driven on by the side of the 22-ft. wide lode, 7 fms., and have very favourable ground for driving, and its character favourable for copper. In the 40, south of Lean's winze, there is a large gossan lode, promising to be productive at some greater depth. In Goad's winze, under the 40, we have sunk in the past month 10 ft.; the lode is 6 ft. wide, being hard, but a fine course of ore still holding down. We have now directed the men to sink down by its side in the granite, at 12*l.* per fm., after which we shall break down the ore much cleaner, and at less per fm. We have resumed Stephens's winze under the 40, in which the lode is hard, and not very productive at present; here we also sink down in granite, and break down the lode when convenient. In the stopes under the 30 the lode continues much as usual. We have now taken away 20 fms. of lode—viz.: 5 fms. in depth, and 4 fms. in length from Goad's winze northward, and from the 30 fm. level down. In the 40, north of Goad's winze, the lode is 7 ft. wide, hard, and composed almost entirely of copper ore, although I think one-half of it will not produce above 15 per cent. We have also begun here to drive in the granite, close along side of the lode, expecting, as in other instances, we shall save the ore cleaner, and drive through the ground for less than 30*l.* per fm. Phillips's winze, now 7 fms. under the 30, is still unproductive. Two men have got 2½ fms. above the 20 fm. level against Masterman's winze; this shaft will not be wanted for some months, which is the reason why more men are not employed in it. On Horne's lode we are forward 16½ fms. from the foot of the hill, and are now cutting into the lode; it is, so far as we have cut in (3 ft.), composed of spar, gossan, and stones of ore, with faces of green carbonate. After cutting through the lode in this level, we shall sink down to the water, and again cut through it; if Horne's lode does not turn out a prize, I shall be much disappointed. In the adit north, on Baker's lode, the ground is much harder than usual; it is now likely we shall not hole this adit into the mine till the end of January. We have begun making preparations to lay down the railway. The winze, on a promising lode in the north end, is 2½ miles from this, the south mine; it is, I think, a separate lode from the one formerly tried on; it is 2½ ft. wide, composed of gossan, and fine stones of ore at surface. At Anstey's shaft one horse in the whim-engine is well able to draw all the rubbish and water, walking in the whim round, so that nothing is likely to hinder our carrying on this part of our operations vigorously. The new shaft, on Baker's lode, is 140 fms. west of Goad's winze; it is begun on the lode from surface, and I wish to delay no time in getting down into the ore ground (40 fms.), which probably may be done in eight months. The exploring party have this week set out to search the north end of the survey, with their tent, provisions, &c. Last week they found and pointed out to Mr. Solly and myself a good looking lode, on which are fine stones of copper ore on the western side of Baker's lode, running about north-east, and with which lode it will form a junction not far from the new shaft, 140 fms. from Goad's winze—a promising feature. The miners are steadily carrying on our operations, and appear to be contented. They are anxious to get allotments in the new township, to build cottages for themselves, being too thickly stowed at present. I send the survey of the township for your approval; it embraces all the ground available on the site. Any different arrangement of the 48 quarter-acre allotments which you may order can still be carried out.

Dec. 3.—Total quantity of ores supposed to be above 26 per cent. produce, sent to Adelaide, 245 tons; now lying on the mines to be carted, say, 5 tons; ditto, undressed small ores, 35 tons; now on the floors, available for smelting in the colony, say, 150 tons—436 tons. Number of men, 68. On the 22 feet lode, having driven an adit into the hill 15 fathoms, we have now begun to sink below that level, so as to prove its worth in depth. In the 40, south of Lean's winze, the lode is 3 ft. wide, and promising to be productive at some deeper level. Goad's winze is now 2½ fms. below the 40, and, having sunk in the strata in the past month, we have now a good advantage to take down the lode. Stephen's winze, below the 40, is producing good stones of ore, and is in an improving state, now 2 fms. 0 ft. 6 in. below that level. Goad's stopes are now worked away from the 30 to within 4 fms. of the 40 fm. level, and from Goad's winze 4 fms. north; and the piece of ground remaining is likely to turn out as well, or better, than usual. In the 40, north of Goad's winze, we have driven on 2 fms. by the side of the lode, and shall be raising an extra quantity of ores from it in December. Phillips's winze is now down to within 8 ft. of the bottom of the 40, or deep adit; and so soon as we get it down, and drive 6 ft. north and south, we shall at once commence to break down the lode now standing in the side of the winze, and which, for 2 fms. above the present bottom, seems to be a solid lode of ore. We shall not, however, be in a position to break into it till the beginning of January next; on the 30 of November this winze was not productive. Horne's lode is now cut through in the adit end, and is 8 ft. wide, containing rich stones of ores of copper pyrites and carbonate, but not saleable, evidently showing that we have only to sink (perhaps 10 fms.) to get into a good course of ore. We have already sunk 2 fms., and shall suffer no delay in prosecuting this most important work. The ground in the adit north, on Baker's lode, is hard; we shall not effect this communication till the end of January, 1849. The ground in Anstey's shaft, is still a hard felspar granite. The nine men at work there have sunk 7 ft. in three weeks. The one horse in the engine effectually drains the water, and draws all the rubbish; if we had a steam-engine on this shaft it could not be sunk with more economy and dispatch. We shall most likely command this lode 15 to 20 fms. deep, with horse-power. The hardness of the lode causes the laying open and getting the mine in a state to produce larger quantities—a tedious and expensive operation. Arrangements are being made (although the adit may not be completed) to raise 100 tons per month, from the 1st Jan., 1849. My opinion is still unshaken, that the mine will turn out satisfactory. The exploring party have not yet found any new lode of promise. In my report of 3d November I stated, that 280 tons of ore had been sent to Port Adelaide from this mine, which, however, I now find (in again adding up the weights) to have been more than was actually sent by 51 tons.

P.S.—There is an improvement, on the whole, since the 3d Nov., because we have discovered ore in Phillips's winze, but to what extent we shall not know till the end of Jan., when the lode will be broken down.—ALFRED PHILLIPS.

LOW'S PATENT COPPER COMPANY.

The annual general meeting of this company was held on Friday, the 24th inst., at the offices, Old Broad-street, at which the following report was read:—

DIRECTORS' REPORT.

The directors, at this first general meeting, beg to submit to the shareholders a brief statement of their proceedings since the formation of the company. The certificate of complete registration was duly obtained, dated 27th March, 1848. During the last session of Parliament an Act, which was required for enabling the company to become the holders of patents, was also obtained, having received the Royal assent on 22d July last. The patent for securing Mr. Low's first improvements in copper smelting has been completed, and since regularly assigned to the trustees; and a second patent, embracing further improvements, which has been sealed, and will be completed at the proper period, will then also become the property of the company. A copy of the following statements, showing the position of the company's financial affairs to 31st December last, and the auditors' report thereon, has already been forwarded to each shareholder. The directors have only to remark on this subject, that they have not ventured to give any statement of profit and loss, as, in consequence of the smelting operations, up to the end of 1848, having consisted almost exclusively of experiments to ascertain the effects of the new process on the various description of ores, any calculation of gain or loss arising from them would, in all probability, prove erroneous. For the purpose of selecting an eligible situation for the erection of the first smelting works of the company, Mr. Low, with another member of the board, visited Wales, and, after examining several localities, agreed to lease, for a long term and at a moderate rent, a piece of ground and premises at Penclawdd, on the river Burry, a few miles from Swansea. This site possesses great advantages, as well as facilities for extending the works, should it be found desirable, and comprises an excellent shipping dock, abundant supply of water, and coal of excellent quality in the immediate neighbourhood, and for which a contract has been made on advantageous terms. On this site the necessary buildings for smelting on a tolerably extensive scale have been erected, under the personal superintendence of Mr. Low, and on a plan embracing the latest improvements in construction. At the same time, the greatest economy, consistent with the erection of works of the best description, has been carefully attended to, and the low prices of materials and labour during the past year have enabled him to complete the works of capabilities, it is believed not exceeded, if equalled, by any other similar extent in Wales, at a very moderate cost. Some necessary erections are still incomplete; but all outlay on this head will, it is hoped, be shortly terminated. The results of the numerous experiments made with the new processes of smelting are highly satisfactory, showing a considerable saving of expense; while the quality of the metal, which has been subjected by consumers to their severest tests, has been universally approved. The results, indeed, have exceeded the anticipations of the directors, and have, they conceive, fully established the great advantages arising from the improved processes. Some difficulty was at first experienced in obtaining a supply of ore adequate to the regular employment of the works; but this, it is hoped, has been overcome, contracts having been entered into with several parties for continued supplies, and proposals for further engagements being still under consideration. But the directors have to regret that the mining companies of Cornwall have not yet availed themselves of the advantages offered by the company to the extent they had hoped for. Two of the directors, Messrs. C. Hunt and E. Hunt, go out of office at this meeting by rotation, but are eligible, and offer themselves for re-election accordingly. The term of office of the auditors, Messrs. T. Routledge, Jun., and Wm. Henry La Sorre, also expires at the present meeting, but they also are eligible, and offer themselves for re-election.

The report having been received and adopted, the directors and auditors were re-elected, when the meeting adjourned.

CARN BREA MINING COMPANY.

The annual general meeting of adventurers was held at the company's offices, Duke-street, Adelphi, on Saturday, the 24th inst.,

GEORGE MARSH HARRISON, Esq., in the chair.

The report of the committee of management, together with a statement of the accounts and mine statistics, for the year ending 31st December, and also a report from Mr. Lyle, of the present state and prospects of the underground workings, were read:—

Receipts and Expenditure for the year ending Dec. 31, 1848.

RECEIPTS.

Balance of preceding account	£15,832	18	11
Proceeds of sales of ores,—viz.: copper, 58,984*l.* 19s. 4d.; black tin, 11,677*l.* 14s. 8d.	70,662	14	0
Proceeds of arsenic	342	14	3
Ditto old stores	12	10	7
Balance of interest account	4	13	5
Total	£86,855	11	2

EXPENDITURE.

Cost for 12 months				£53,868	11	6
Dues on copper ores, black tin, &c.				3,403	13	1
Property and income tax				575	3	0
Directors, one year	£200	0	0			
Management and office expenses	387	3	10 —	587	3	10
Travelling expenses, holding meetings in Cornwall				119	9	0
Law expenses				10	10	0
Five dividends				14 000	0	0
Balance in favour of mines, if wound up				14,491	0	9
Total				£86,855	11	2

DIRECTORS' REPORT.

It has been already reported to the adventurers, at the special meeting of May last, that in compliance with the wishes expressed at the ordinary meeting of the adventurers in March, a deputation of three members of the board of directors went down at once to Cornwall on a visit of inspection, and there, upon the mine, held a conference (pursuant to a general invitation sent out) with such of the adventurers as found it convenient to attend; and it has also been already reported to the special general meeting of May, that the state of the accounts and working management was found perfectly satisfactory to all who attended, and bore the most searching inquiry. Similar meetings in Cornwall have since been periodically held, and the result has been equally satisfactory and useful. It is therefore proposed, as the adventurers appear to be of opinion that the plan is desirable, to continue it in operation. It is needless to speak of the depressing effects which have been experienced in every department of industry during the year 1848, and it would be strange indeed were the products of mining labour to exhibit any exemption from the general calamity. The Carn Brea Mines, however, have been an exception to a certain extent; they have yielded very nearly as much copper and more tin than they did in the preceding year; although the mining captains, in pursuance of an intimation at one of our meetings on the spot, abstained from pressing on the raisings to anything like the full extent of their power. In December, one of those accidents, which are incidental to underground operations, occurred—viz.: the running in of a part of the back of the adit, which lessened the number of tons brought to grass in that month; but it has happened, however, that this very accident brought some reparation with it, by laying open a portion of productive ore ground, our vicinity to which, but for the accident, might have remained long undiscovered.

The renewal of the lease, under the authority granted by the resolution of the adven-

turers at the general meeting of May, has been prosecuted; but it having been discovered by the agents of the lessors that it would not be desirable to complete the arrangement upon the basis of a money fine, as at that time intended and agreed, fresh propositions were made to your directors, which, being discussed, have resulted in an alteration of the terms of the new lease (subject to the approval of the adventurers), to the following effect:—The rate of dues to be 1-10th part, free of all fine, instead of 1-20th part burdened with the payment of a fine of 3600*l*. This commutation will be regarded, it is hoped, by the adventurers, as it is by the directors, in no disadvantageous light; and under the impression that such would be the case, the solicitors of the company have been desired to frame a resolution to amend and to stand in the place of the resolution passed in May last. The draft of the new lease is in the solicitor's hands. The usual account of the receipts and expenditure of the mine during the past year 1848, and the usual tabular statement of the particulars of its produce, lie upon the table for inspection of the adventurers. These statements exhibit the following results:—A falling off in 1841, as compared with 1847, of 20 per cent. in the realised money value of the mine's produce; a falling off as to copper of 6 per cent. in quantity; ditto 23½ value; ditto 18 average price per ton of ore; ditto 1¼ average produce for assay; ditto 7½ yield of metal; whilst, with regard to the mine's produce in black tin, in 1848, as compared with 1847, there is an excess of 16 per cent. in quantity, and a falling off of 10 per cent. in average price per ton.

During the past 12 months the directors have had the satisfaction of paying dividends to the amount of 14,000*l*., diminishing by about 1300*l*. the balance in favour of the mines in order to do so; but, had the produce of 1848 obtained the prices of 1847, there would have been near 13,000*l*. more realised by the adventurers. The year 1849 opens well for mining pursuits; copper and tin have lately risen. The standard at the last ticketings in Cornwall has been, perhaps, 20*l*. higher than the lowest range it receded to in 1848; and the price of black tin is now, perhaps, 10*l*. a ton higher than the lowest rate that ruled in 1848. An erroneous impression having been produced in some quarters by the yearly account, made up upon the plan that has long prevailed in this company, by which a large balance appeared to the credit of the mines, when in point of fact no such balance existed in an available form, a supplementary statement is laid upon the table, showing the actual available balance that remained in hand at the end of the year; in future the accounts shall be made up, so as to put this more clearly before the adventurers. The report of Mr. Lyle, as to the underground workings, will be found on the table. The tin yield of the Highburrow lode, in the 115 fathom level, is very remarkable, the lode being valued by some at 100*l*. per fathom. The directors have declared a fresh dividend of 3*l*. per share, payable on and after the 12th of April next.

REPORT OF MR. JOSEPH LYLE.

March 21.—Since the date of my last annual report, I am happy to inform you, these mines have fully maintained their productiveness both in the tin and copper departments; the quantities returned have not, as appears from the weekly reports, equalled the quantities discovered by about 64,000*l*. Recently, on Highburrow lode, there has been a very material improvement in the 125 and 115 fm. levels, where we have courses of tin, worth from 20*l*. to 100*l*. per fm. We have a cross-cut driving towards this part, in the 145 fm. level, which is expected to communicate in a few months, and lay open another 20 fms. in depth. Harrison's lode has been opened on in the 36, 46, and 56 fm. levels, and found equally good at these points. On the Druid south lode, in the 46 and 56 fm. levels, are courses of ore better than have previously been discovered west of the Druid new shaft. In the 56 fm. level, about 10 fms. of ground have been opened, where the lode is worth from 15*l*. to 20*l*. per fm., and the end is driving for 2*l*. per fm. On Vigurs's lode, east and west of the monument shaft, we have great quantities of rich ore ground from the 26 fm. level to the adit. Pitches will here work at very low tributes. East and west of the Druid new shaft, on this lode, are also considerable quantities of tin and ore ground from the 66 fm. level to the adit.

We have opened on Burncoose lode, in the adit level, about 30 fms., and find it a very regular, productive, and most promising lode, with rich stones of yellow copper ore; and I doubt not it will prove as valuable as any lode yet discovered in the mines. I strongly recommend the erection of a steam-engine as early as possible. The amount of profit in the past year has been small, compared with the previous one; but this circumstance, you are aware, is attributable to the unprecedented depression in the prices of our produce. With the prospect of great improvement in the state of the markets, I think we may expect in the coming year, to realise a sum unusually handsome. This month's sales, being Jan. returns, will leave a profit of 3400*l*. on the month's workings.

The reports and accounts having been received and adopted, it was resolved, that the following modification in the proposed new lease of the Carn Brea Mine be adopted—That the rent shall be one-nineteenth of the ore raised, without payment of fine; and that the solicitors be directed to settle the form of the surrender by the trustees of the existing lease, and the new lease to the said trustees, subject to the instructions of the directors. The thanks of the meeting were given to the directors, and also to Mr. Joseph Lyle, for the great attention they have paid to the interests of the company, when the meeting adjourned.

CALLINGTON MINES COMPANY.

At the annual general meeting of shareholders, held at the offices of the company, Finsbury-square, on Friday, the 30th inst.,

R. Hodgson, Esq., in the chair.

The circular letter convening the meeting having been read, the following report from the directors was submitted:—

In addition to a very minute and comprehensive statement, which will be submitted to you from Capt. Phillips, the company's agent, a report will also be read from Capt. Floyd, of the Tincroft Mines, who has made a careful inspection of the sett. Both these documents give a very flattering and confidential opinion of the success which may be expected ultimately to attend the further and vigorous prosecution of the copper lodes. Generally, the mines are reported to be in a satisfactory condition. The indications at Kelly Bray are propitious. The 70 fm. level east is within 10 fms. of the Kelly Bray engine-shaft, and at this point, after driving through 50 fms. of uncongenial ground, a favourable and congenial change has taken place, not only in the composition of the lode, but also in the nature of the country. The lode is 10 ft. wide, with good stones of yellow ores, disseminated through 7 ft. of it, and yielding about 4 tons of ore per fm. The lode in the 90 is also large and regular; and these indications, with other evidence, induce the agents, and those who have inspected the mine, to express confident opinion that the Kelly Bray lodes will ultimately realise the anticipations entertained, and prove, in further development, a lasting and lucrative property. The sinking of the engine-shaft, at the north mine, is progressing with expedition and advantage, the lode having been cut in the 112 fm. level, and fully realising the anticipations entertained. All parts of the lead mine are minutely reported on in the agent's report, the general nature of which is satisfactory. The accounts to the end of the past year will be submitted for your consideration and adoption, and your votes taken upon the election of a director in the room of Mr. P. Stainsby, who, under the rules of the company, and by rotation, retires, but, being eligible, offers himself for re-election. The auditors, Messrs. Hammond and Leary, also retire, but offer themselves, being eligible for re-election.

The reports, from Capts. Phillips and Floyd, will now be read; and, as they contain a full and detailed account of this property, it remains only for your directors to state, that they are exercising the most anxious judgment, and using the most active exertions, to render these mines a source of profitable and permanent investment. Some objections having been taken to the form in which the quarterly accounts are at present made up for circulation, it is under the consideration of the board whether some improvement in that form can be adopted for the future. The directors have also the pleasure to inform the shareholders, that Lord Ashburton has reduced the dues for 12 months on all ores raised in his part of the mine to a 1-48th, on conditions of working the mine in certain levels, which the company were already working.

Statement of Accounts for Three Months, ending with December cost, 1848.

Dr.—Balance from last account		£ 335	4 6
Amount of cost for October, November, and December		5012	9 2
Interest and discount		35	4 9
Directors' attendances, 69*l*. 10s.; London management, 50*l*.; petty cash, 17*l*. 1s. 5d.		129	11 5
Total		£5512	9 10
To balance	£284 2s.		
Cr.—Silver-lead ore—October, November, and December		£3909	1 3
Copper ore—October, November, and December		381	10 4
Old materials		50	0 0
Kelly Bray cost for October, November, and December	£ 1269 6 7		
Call for Kelly Bray	1000 0 0		
	£2269 6 7		
Less copper ore	£ 381 10 4		
Nineteenth call	1000 0 0—1381 10 4—	887	16 3
Balance		284	2 0
Total		£5512	9 10
By subsist, December cost	£173 10s.		

The following reports from Capts. Phillps and Floyd were then submitted to the meeting:—

March 27.—In taking a review of the past year, I beg to call your attention to the work which has been done at Kelly Bray. In the first place, a 36-inch cylinder engine has been fixed, and the shaft sunk from the 35 fm. level below the surface; 10 fms. below the 45, or what may be termed the 20 fm. level below the adit; the latter level has been opened for about 20 fms., the greater part to the east of the shaft; the lode throughout these operations has been from 1 ft. to 3 ft. wide, of a strongly mineralised character, principally composed of quartz, mundic, occasionally carrying a little copper ores, intermixed with fluor-spar, presenting a very promising appearance. The 70 fathom level east is within 10 fms. of Kelly Bray engine-shaft; here we have met with a small cross-course, the one to which an allusion was made in the last yearly report, and at which point we looked forward to an improvement in the lode; this, I am happy to inform you, has been met with; after driving 50 fms. through an uncongenial channel of ground, the character of the country is much improved.

We are just now getting under the gosson lode through which we sunk at Kelly Bray, and feel persuaded that the expectations we then had will still be realised; the lode is now 10 ft. wide, with good stones of yellow ore disseminated through 7 ft. of it, and will yield about 3 or 4 tons to the fm. We expect, from the appearance of the same, a decrease in size and an increase in the value, as we get east, and have no doubt of having a profitable and a lasting mine, as soon as our eastern ground is fairly opened. The 90 fathom level is extended 20 fms. east of the great cross-course, where we find the lode large and regular, with occasional stones of yellow ore. Our falling in this point is the reason of the falling back of our samplings of copper ores. Had the lode continued as rich as we were led to expect from the appearance of it in the 70 fm. level, full 6000*l*. worth of copper ores would have been discovered, at the lowest computation; the point of this level is now about 52 fms. behind the 70 end, suspended for the time; it ought at once to be resumed, and pushed forward with all possible speed, to get into the ore ground we have reached in the 70; 12 months we expect would accomplish this object.

The 50 fm. level is driven 28 fms. to the east of the great cross-course, and has gone through 6 or 8 fms. of orey ground; in the present end the lode is 4 ft. wide, intermixed with copper ores, and worthy of a further outlay—the character of the lode being good; the backs of the 50 and 70 fm. level are likely to continue to yield returns of copper ores for a considerable time to come. The 80 fm. level is being driven east on this lode to the lead lode, where the lode is 1 ft. wide, and producing stones of copper ore. The 90 fm. level, to the west of the lead lode, has been driven about 6 or 8 fathoms, and yielded several tons of good quality ores; in the present end the lode is 2 ft. wide, intermixed with copper ores—very promising. The 100 fm. level has been driving west on this lode through the present month; the ground is favourable; the lode rather disordered, producing stones of copper ores. Although our prospects in this part of the mine are of a very favourable character, our returns for copper ores, for some time to come, will not be equal to the expenditure, which will be necessary for opening the same, in sinking the engine-shaft, driving the levels, &c. The north engine-shaft has been sunk; since we commenced the 112 fm. level, about 5 fms; the present price is 30*l*. per fm.; the men are getting wages; the lode has been cut in the latter level, and equal to our expectations—bunchy, as usual; the north end, from present appearance, will yield half a ton of ores per fm.; the south end is rather poor. The 100 fm. level north is extended to within the 32 fm. of our boundary; here we have fallen in with a branch of the great cross-course, which has not yet been cut through; the lode is producing silver-lead ores; in the south end, which has nearly reached the count-house shaft, the lode is poor. The 90 fm. level south, which we expect to hole shortly to the count-house shaft, is opening tribute ground.

At the south mine, the 125 fathom level has been driven north from shaft 52 fms.; the ground we have lately opened will work at a high tribute. The south level is extended 45 fms., and the same remarks as for the former level may be made. The 112 fm. level, both north and south, is being driven through ground that will work at high tributes. In the 100 fathom level north the lode is small, producing silver-lead ores; the point of this level is within 25 fathoms of the point of the level in the north mine, and is likely to be communicated in the early part of the summer. The 90 fathom level south is unproductive. The 70 fm. level south is opening tribute ground. In the 40 fm. level south we have a very congenial channel of ground; the lode is producing stones of silver-lead ores, presenting a kindly appearance. We are now engaged in following Kelly Bray lode with back towards Kitt Hill, and have opened on it different costean pits, to the distance of 190 fms. east of engine-shaft, and find it continues large and regular, carrying a great deal of gossan of good character; the character of the channel of ground is also congenial for the production of copper ores. Looking at our prospects in the 70 fathom level east, which is now got into this stratum of ground, and the continuation of the flattering appearance of the lode on the back, our near approach towards the quantity and the intersection of this and other parallel lodes by elvan courses, we feel persuaded that a brighter day has dawned upon us.—J. T. Phillips.

March 15.—Agreeably to your request I have carefully inspected the Callington Mines, and herewith beg to hand you my report. Kelly Bray shaft is sunk about 9 fms. below the 20 fm. level; I would recommend sinking this shaft with all dispatch, also the driving the 20 fm. level east, the lode in the present end being 1½ ft. wide, very promising, with stones af copper ore. From a shaft sunk on the course of the lode, a level has been commenced 25 fms. from surface; this ought to be continued, as I am of opinion that the lode after separating from the gossan will be productive. The 90 fm. level, east of the great cross-course, is driven about 25 fms.; the lode is about 1 ft. wide, but poor; in the back of this level ore ground is discovered that will work at 9*s*. in 1*l*. The 90 west is driven about 6 fms., the lode being 3½ ft. wide, opening tribute ground, which will work at 10*s*. in 1*l*. The 70 fms. is extended east, within a few fms. run of Kelly Bray shaft; the lode is of a promising appearance, with a few stones of ore. The 50 fm. east is at present suspended; I would recommend the driving of this level, as the appearance of the ore is promising, the lode being 4 ft. wide, and orey, with a great quantity of water; in the bottom of this level there is a good run of ore ground for 6 or 7 fms. in length, through which a winze should be sunk, in order to prove the ground. I have no doubt these levels going east, on intersecting the granite, will prove productive. I consider the mine is now well laid out, but there is a material want of tutwork, a large increase on which, although it would necessarily involve an outlay of money, would, I feel confident, richly reward the adventurers. The lode is most congenial for ore, and I have not the least doubt but that a rich and lasting mine would result from an efficient working of the same.—P. Floyd.

From the accounts submitted, it will appear that the costs of Kelly Bray are included on the debit side, amounting to 1269*l*. 6*s*. 7*d*., ending December last, the sales of ore during that period being 381*l*. 10*s*. 4*d*., thus leaving a balance as against the mine for the quarter of 887*l*. 16*s*. 3*d*. It may be well here to observe, that these accounts, or the loss arising on Kelly Bray, is now taken as a part of the balance-sheet of the company, inasmuch that no accounts have been paid by the Callington Mines, which, if we understand rightly, amount to 3684*l*., which has been advanced by the committee at interest; 8400*l*. has been spent, and 4716*l*. received from proceeds; a call of 1000*l*. has been lately made, leaving a default of 3716*l*. It is, however, to be borne in mind, that an engine, with the appurtenances, has been erected at a cost of 2700*l*., and, taking into account the dead work in prosecuting the working of the mine, there would, according to the statement of the chairman, be a profit of 5000*l*., had the lode yielded a produce equal to that of which a former report was made.

Mr. P. N. Johnson would observe that, to work Kelly Bray, more money was wanted; 13 fathoms of rich ore ground had been gone over, the lode being 10 feet wide, and yielding 4 tons to the fathom, at the 70 fm. level. He would recommend that the shaft be sunk, in Kelly Bray, to a depth so as to form a communication with the driving of the end from the Callington Mines, at the 70 fm. level, the present bottom in Kelly Bray being 30 fms. under adit, consequently requiring a sinking of 40 fms., which, assuming 5 fms. per month, would occupy a period of 8 months. It appears that in driving at the 70 fm. level from the Callington Mines, which, to reach the shaft at Kelly Bray, would be 135 to 150 fms.; 80 fms., or thereabouts, have been already driven—thus, it may be assumed, with active prosecution of the work at both points, a junction may be made, within 10 or 12 months, between Kelly Bray and Callington Mines at that depth. Mr. Johnson expressed his opinion that, looking at the mine without reference to the expense of the machinery and plant, a considerable profit would ensue.

M. Macnay observed that he had been given to understand returns of solid ore had been obtained, which were not noticed in the report of the directors.

Mr. P. Stainsby would remark that reports were often given, and information acquired by the public before the directors were in possession of it, while it was only right to state that all communications made by the agents of the company were submitted to the adventurers. Capt. Phillips, who had been the agent of the mine, having lost the confidence of the board, had resigned his situation. He believed that there was only one opinion entertained, that of the mine having been well laid out, to which they were indebted to Mr. Johnson, although he was sorry to say it had not been carried out efficiently.

Mr. P. N. Johnson observed that, if the shareholders were not disposed to carry on Kelly Bray, he had no hesitation in stating that others were ready to do so.—Mr. James remarked, that Kelly Bray had been worked without capital; he considered, however, that it was well worth prosecuting, and would be ready to meet any call for that purpose.

In reply to a question, it appeared that the price of ore had decreased from 22*l*. to 16*l*., which had, consequently, depreciated the value of the property, without any change in the produce.

A conversation took place, as to the course to be pursued as regards the future workings, when it was resolved that further calls should be made for that purpose; and thanks having been voted to the chairman, the meeting adjourned.

HOLMBUSH MINING COMPANY.

The annual general meeting was held at the offices, George-yard, Lombard-street, on Wednesday last, W. H. Pilcher, Esq., in the chair.

The Secretary having read the notice convening the meeting, the report of the directors was submitted, together with the annual report from Capt. Wm. Lean, and also a special report from Capt. Henry Williams, which gave general satisfaction, when the following profit and loss account for the past year was submitted:—

Amount of cost from January to December	£7165 11 8		
Dues	108 18 3	=7274	9 11
Raisings of copper and lead, with carriage and charges		4483	19 10
Total		£2790	10 1
Sundry payments additional—secretary's salary	£100 0 0		
Interest and discount	45 6 11		
Loss on forfeited shares	29 0 0	= 174	6 11
		£2964	17 0
Balance at general meeting of March, 1848		1116	7 9
		£4081	4 9
By calls—two of 10*s*., and three of 1*l*. per share, 3705*l*. 10*s*.; income tax returned, 55*l*. 6*s*. 9*d*.		=3760	16 9
Leaving a balance against the mine of		£320	8 0

DIRECTORS' REPORT.

In conformity with the regulations of the company, the directors have again to present the shareholders with an annual statement of accounts, and with full and detailed reports of the operations and prospects of the mine, as communicated by the company's agent, Capt. W. Lean, and by another experienced mine agent, unconnected with the company—viz.: Capt. Henry Williams. These reports show an improvement in the mine since the special general meeting on the 1st of November last; but the directors regret that it is not yet in their power to report the accomplishment of what has been so long and perseveringly wrought for—the intersection of the Flap-jack lode, east of the great cross-course. The delay in this it was impossible to foresee—the best means available having been used to form a judgment of its probable distance, which circumstances have unfortunately not been confirmed—the distance driven being 52½ fms., or 21½ fms. more than computed, which has added more than three months to the time required to prove this part of the mine, as well as a corresponding expense. The expectation of success herein, however, becomes stronger as the vein is approached, from circumstances detailed in Capt. Lean's report.

It will also be satisfactory to the shareholders to be informed that, from the increase in the returns from other parts of the mine, the present monthly loss on the working is considerably reduced; and every effort is being made to meet the monthly cost from the returns, which it is hoped may soon be accomplished. Looking at the heavy loss at which the mine has been wrought for so long a period the directors have made application to the Council of His Royal Highness the Duke of Cornwall for a total remission of the dues, till there should be an improvement in the mines; and they hope this may meet with a favourable consideration. At this meeting, two of the directors, Mr. William Chippendale and Mr. W. H. Pilcher, go out of office by rotation; but, being eligible, offer themselves for re-election. Mr. Camps, as auditor, also goes out of office by rotation, and offers himself for re-election. At the special meeting in November, Mr. R. Bradley, who had previously filled the office of auditor, having been elected a director, it now remains to elect an auditor in his stead; and a notice has been received from Mr. Charles Warton, of 38, Threadneedle-street, announcing his intention of becoming a candidate, agreeably with the provisions of the Deed of Settlement.

March 24.—In presenting our annual report of this mine, since the special meeting, we beg, in the first place, to state the number of fathoms of ground explored on tutwork in the different levels, winzes, rises, &c.—Second, the present appearances of the mine, and future prospects of returns, both on lead and copper ores.—Third, the work we would recommend being carried out.—Fourth and last, a few concluding remarks on the foregoing, stating the cost it will incur to perform the work herein recommended, which we hope will meet with your approbation—viz.: The ground explored in the several levels, winzes, rises, &c. in and throughout the mine, from November, 1848, to March, 1849 (both inclusive) is 60 fms. 1 ft. 4 in. Having penetrated the great cross-course in the 132 fm. level, west of the diagonal shaft, we have commenced driving north to intersect the lode, which we hope to reach in one month from the present time; the strata is a beautiful white clay-slate, and is driving by six men, at 5*l*. per fm.; this is a very important and interesting point to reach, and one in which we feel very sanguine of success in meeting with a productive lode, when we call to mind the course of copper ore we now have 6 fms. below the 120 fm. level, west of the cross-course, which is worth 30*l*. per fm., and is lengthening as we near the 132 fm. level. The ground in the 120 fm. level cross-cut south is favourable, being set to four men at 8*l*. per fm., and we fully expect to intersect the main south branch within 2 fms. driving from the present end; several small strings and branches have already been met with, dipping towards it; this part above the 110 fm. level, east of the point of horse, produced a great quantity of rich copper ores; it has been but partially wrought on in the bottom of the level (some 2 or 3 feet deep only), being covered with water, but when drained by the 120 fm. level cross-cut it will set at a moderate tribute, and, without doubt, will produce a pretty good quantity of ore. The lode in the 120 fm. level south, on the lead lode, is 3 ft. wide, composed of quarts, prian, and stones of lead (saving work), and leaving ground that will set at a moderate tribute in back and bottom of the level—this level is driving by six men, at 3*l*. 10*s*. per fm. The lode in the 110 fm. level south is 2 ft. wide, composed of quartz, prian, and lead, also saving work, and leaving ground that will pay for stoping in back and bottom of the level, the ground being favourable—this end is driving by two men, at 45*s*. per fm. In the 100 fm. level east, on the flap-jack lode, we have at last intersected and, we hope, got through the great cross-course (which is 4 fms. wide), after extending the level 52½ fms. from the lead course before we reached it, being 21½ fms. further apart than they are in the Holmbush main lode, and 22½ fms. further than in the Callington Mines; this appears singular, but, nevertheless true—hence the length of time occasioned by this angle; it has taken beyond our calculation at the last meeting, which could not be foreseen. The end is now in a beautiful stratification of white clay-slate, and we shall take the precaution to extend it a little further east, to be quite clear of the cross-course, previous to driving north to intersect the counter part of the lode, which we hope and trust will be found a productive one. No cross-course or stratum can be more congenial for mineral than these, and we shall abide the time with great solicitude (being still sanguine of ultimate success) until its intersection; the end is being driven by six men, at 3*l*. 15*s*. per fm., and, provided the lode is hove the same distance by the cross-course as the main lode is, we shall intersect it within two months from the present time—this remains to be proved, and we shall lose no time to accomplish it. From our present prospects we hope to raise monthly 12 tons of lead, at (say) 16*l*. per ton, 192*l*.; and 40 tons of copper at 6*l*. 10*s*. per ton, 260*l*.=452*l*. The shaftmen are driving the 132 fm. level at present, and we purpose when the lode is intersected to remove them, to resume sinking the diagonal shaft deep enough for another level; it is now about 3 fms. below the present depth (132), the ground in which is favourable, and can be sunk at the rate of 2 fms. per month; also resume driving the 132 fm. level north of the shaft, which we commenced some time since to intersect the north branch; but, having work of importance elsewhere to perform (for a short time only), we at that time thought it prudent to suspend it, not willing to increase the cost until we were in better circumstances to bear it, likewise continue the operations now in progress—viz.: To drive the 132 fm. level west of cross-course; 120 fathom level cross-cut south; the 120 and 110 fm. levels south on the lead lode; and the 100 fm. level north and east of the cross-course, to intersect the flap-jack lode, with all possible dispatch, and to set all the tribute we can that will pay both for copper and lead. In conclusion, we would beg to state that to carry on the operations above-mentioned, it will cost about 550*l*. per month, as near as we can estimate; we do not pledge ourselves to the exact figures set down, it may possibly be a little over or under that amount, agreeable to circumstances, in unforeseen events in mining; one thing is, however, certain, we will pledge ourselves to work as economical as possible, without prejudice to the mine, bringing to market all the lead and copper ores we can raise. You cannot but perceive the time is fast approaching when the flap-jack lode will be intersected to the east of the great course in the 100, and the main lode to the west of it in the 132 fm. level; and, if our expectations are not cut off, we shall very soon increase the quantity of the latter mineral to a pleasing degree, after a long run of poverty and expense. Nothing would afford us a greater pleasure (of a temporary nature) than to be enabled to repay you the money you have so willingly advanced to prosecute this mine with good interest and large dividends for the same, which, in the end, we hope you will be crowned with.—William Lean.

March 24.—In the 110 fathom level, 12 fms. east of Hitchins's shaft, the lode has split, forming two lodes, diverging from each other as they progress eastward; the north part has been worked to the 120; the south part has also been worked away in the back of the 110 for about 80 fms. in length, but remains unwrought in the bottom, in consequence of not being able to sink for water until the lode is intersected below; there has been large quantities of ore returned from the back of this level, and there is every reason to believe that the bottom of the level will also prove productive. There is a cross-cut driving from the 120 fm. level towards it by four men, at 8*l*. per fathom; it is calculated that there are 3 fms. more to drive to intersect it, and it is very likely that the stratum will become more soft as it approximates the lode, favourable results may be expected from these operations. In the bottom of the 120 fm. level, west of great cross-course, is a pitch working by six men, at 5*s*. in 1*l*.; this has been sunk 5½ fms. below the 120, the lode is from 18 in. to 2 ft. wide, a good course of ore, producing from 3 to 4 tons of good ore per fm. There is a level driving from the 132 fm. level by six men, to get under it, and it is expected to be accomplished in one month. The 132 fm. level is the bottom level; the only operation going on in this level is the driving the level to get under the pitch before-named; there has been, however, a cross-cut driven 7½ fms., intended to communicate with the perpendicular shaft when sunk; the extreme distance of the cross-cut will be 22 fms.; it will be necessary either to communicate this, or bring down a kibble through the diagonal shaft, to relieve the present method of drawing stuff from the 132 to the 120 fm. level. In the 120 fm. level south, on the lead lode, the lode is about 3 ft. wide, composed of can, soft prian, and lead—a kindly lode, worth 6*l*. per fathom; present price for driving, 3*l*. 10*s*. per fm.: the lode in this level has much improved lately; this level has not yet arrived under the best ore ground gone down in the bottom of the 110 fm. level; there has been many fathoms of ore ground passed over in this level that will hereafter set at a good profit; this, however, cannot be worked until it is drained by the 132 fm. level coming under it. In the 110 fm. level south the lode is 20 in. wide, producing saving work. In the 100 fathom level east, on the Flap-jack lode, the cross-course is cut through, and it is intended to drive north to intersect the lode to the east of the great cross-course; the ground is favourable for driving, and, judging from the large quantities of ore that have been raised from the Holmbush to the east, it is fair to presume that this may be productive also, when it arrives parallel. The operations now in progress throughout the mine are carried on by eight tutworkmen on the lead lode, and 16 tutworkmen on the copper lode. There are nine pitches working on the lead lode, varying in price from 14*s*. to 10*s*. in 1*l*.; and on the copper lode there are 11 pitches working, varying in price from 13*s*. 4*d*. to 5*s*. in 1*l*. In judging from the operations now in progress, taking into consideration the ores gone down in the bottom of the 110 and 120 fm. levels before spoken of, which will be speedily relieved by levels coming under them, an increase in the sampling may be fairly calculated on.—Henry Williams.

The resolutions re-electing the directors and officers of the company having been passed, and a vote of thanks to the chairman unanimously carried, the meeting separated.

EXMOOR WHEAL ELIZA MINING COMPANY.

At a meeting of adventurers, held at Plymouth, on Tuesday, the 27th inst., —H. Luscombe, Esq., in the chair,—the accounts to the end of February were presented, showing balance against the company of 40*l*. 0*s*. 5*d*.—The accounts having been examined and passed, a call of 10*s*. per share made.

The following report, from Capt. Whitford, was read:—

March 24.—In submitting to your attention our operations since our last meeting, which have absolutely drained our funds, I beg to state, as a reason for our not sinking with that progress which was anticipated, that the ground in the shaft has been more difficult and troublesome than was at first supposed, during the last 3 fms. especially; but it is pleasing to be able to inform you that a considerable alteration has taken place for the better. The sink measured, on Friday last, 65 ft. 6 in., and about a fortnight more will complete it to the 24 fm. level. It was thought that the counter lode would have been cut in the shaft ere now; the only reason that can be assigned for its not being done is, that it must have taken a more vertical inclination below than above the 12 fm. level, a circumstance which frequently occurs; nevertheless, it is next to certain that it will be cut at no distant period. The real prospects of the mine are as inviting as they ever were, with this additional advantage, the shaft being nearly down another level. Reasoning from the same progress that was made in driving the 12 fm. level, it will occupy about two months to cut the great north lode in the 24 fm. level; from the splendid indications which was there produced, it is but reasonable to infer that, at the point of intersection, copper will be met with, in quantities either to dispense with the further necessity of calls, or amply to remunerate those who are interested in this important speculation. In consequence of the January and February floods, much difficulty was encountered, and time delayed, in clearing and securing the main lects, but since the dry weather has set in everything has been going on comfortably. The engine keeps the water very well, it being full one-third ess than in the two preceding months.

Carthew Consols.—A special general meeting of shareholders was held at the offices of the company, Cross-street, Manchester, on Wednesday, the 21st instant, and adjourned until the following day.—Joseph Smith, Esq., in the chair.—Mr. Shearman resigned the office of purser, whereupon it was resolved, that Mr. Smith be appointed as purser, *pro tem.*, and that Messrs. Shearman, Rawson, Simmons, and Smith, act as a sub-committee, who shall nominate a purser. It was further determined, that all shares on which any call shall remain unpaid on 16th May next, shall then be declared forfeited (it not being stated whether such be under the Cost-book System, or the Joint-Stock Companies' Registration Act). No transfer henceforward is to be *considered* legal, until countersigned by two of the finance committee. A further call of 4*s*. 6*d*. per share was made, payable on or before the 29th instant, and a resolution passed, that all calls due "from this day," shall bear interest "from the day when such calls became due."—Messrs. A. L. Becker, Simmons, Docker, Stagg, Smith, Gouldsborough, Rawson, and Shearman, were appointed as a finance committee for the next two months.

Great Rough Tor Consols.—A special general meeting of shareholders was held on Saturday, the 24th inst., at the offices, Threadneedle-street.—A. H. Cohen, Esq., in the chair.—The proxies from nine shareholders, holding collectively 134 shares, were presented.—The notice convening the meeting, and the 13th rule, relating to the conduct of business at special meetings, were read.—The proposal of Patrick Kilgour, Esq., "to take the whole of the 135 forfeited shares in one lot, he engaging to pay all arrears of calls due thereon, amounting to the sum of 664*l*," be accepted; and that the purser be hereby authorised to transfer the same, on receipt of the said sum of 664*l*., having been put, was carried unanimously.—The whole of the shareholders, either in person or by proxy, with the exception of those holding 48 shares, were present.

Tregorden.—At a general meeting of shareholders, held at Liskeard, on the 22d inst., the accounts for December and January were produced, showing balance of 218*l*. 9*s*. 10*d*. against the mine. A call of 1*l*. per share was made. [The report will be found among the Mining Correspondence.]

Wheal Penhale.—A special general meeting of adventurers was held at the offices, Stamp Office-buildings, Manchester, on the 21st inst., and adjourned until the following day.—William Stagg, Esq., in the chair.—The reports and accounts having been submitted and approved, a resolution was passed to the effect, that a further special general meeting be held on Wednesday, the 16th May, for the purpose of forfeiting all shares on which any call may then remain unpaid. Mr. W. Shearman, who had acted as purser, having resigned such office, Mr. Hobson was appointed *pro tem.* A resolution of a somewhat extraordinary nature was passed, and, as it was *unique* of its kind, we would draw particular attention to it, as it may serve as a guide—"That no transfer shall be considered legal until countersigned by two of the finance committee"—some remarks on this clause will be found in another column. Messrs. Hobson (sec. *pro tem.*), Smith, H. L. Becker, Lavery, and Barber were appointed as a committee, "to appoint a purser." A call of 5*s*. per share was made, payable on the 29th inst., and a resolution passed that all calls and arrears shall henceforth bear interest at the rate of 5 per cent. per annum, "from

the day when such calls *became* due." Messrs. H. L. Becker, Hobson, Stagg, Lavery, Simmons, Smith, and Shearman were appointed as a finance committee, and the meeting adjourned.

EAST WHEAL CROFTY.—A meeting of adventurers was held at the mine on the 20th inst., when the accounts, as follow, for January and February, were passed.—By balance at the end of December, 1840*l.* 1s. 5d.; ores sold (less dues), 3001*l.* 12s. 7d.; discount on bills and income tax on dues, 18*l.* 5s.—4859*l.* 19s.—To costs, &c., 2732*l.* 3s. 11d.: leaving a balance in favour of the adventurers of 2127*l.* 15s. 1d.

TRESAVEAN.—The following is a copy of the statement of accounts in this mine, just issued to the adventurers:—By balance at the end of December last, 770*l.* 3s. 6d.; ores sold in December and Jan. (less dues), 2328*l.* 3s. 9d.; sundry credits, 122*l.* 4s. 4d. = 3220*l.* 11s. 7d.—To costs and merchants' bills for Jan. and Feb., 2345*l.* 16s. 1d.: balance now in hand, 874*l.* 15s. 6d.

TRETHELLAN.—A statement of accounts, of which the following is an abstract, has been recently forward to the adventurers:—By balance from last account, 236*l.* 9s. 6d.; ores sold (less dues), 388*l.* 8s. 9d.; Brewer adventurers for drawing, &c., 150*l.* 15s. 5d. = 775*l.* 13s. 8d.—To costs and merchants' bills for Jan. and Feb., 462*l.* 11s. 3d.: balance at the bankers, 313*l.* 2s. 5d.

WHEAL TREHANE.—At a general meeting of shareholders, held at Liskeard on the 22d inst., the accounts for Nov. and Dec. were produced, showing—By balance at last account, 736*l.* 19s. 9d.; sale of silver-lead ore, 1532*l.* 3s. = 2269*l.* 2s. 9s.—Labour cost and materials, 896*l.* 7s. 2d.; Trelawny adventurers, 33*l.*; Devon and Cornwall Bank, 38*l.*; lord's dues, 99*l.* 13s. 4d.; dividend, January 25, 512*l.*: leaving balance in hand, 690*l.* 2s. 3d.—The accounts were passed, and a dividend of 2*l.* per share declared. [The report will be found among our Mining Correspondence.]

SOUTHERN AND WESTERN MINING COMPANY OF IRELAND.—The annual general meeting of shareholders in this company, which we announced in the *Mining Journal* of the 17th inst. as to have been held on Monday, the 19th, was obliged to be postponed, in consequence of there not being a sufficient number of proprietors present to constitute a legal meeting under the Deed of Settlement. It accordingly stands adjourned until next Monday, April 2.

*** We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal.

THE BLACKCRAIG MINE.

SIR,—The question has been asked, where to put an engine on this mine? I say, open the old engine-shaft from the adit level to surface, and there fix a 40-horse power engine; take the old lift of pumps, now standing under water, with a 6½-inch working; get the pumps cleaned, the working barrel new bored, and put them down again; they are able to take out the 26 fms. of water by a 6-ft. stroke, if done in summer time, when will be the time to fix a larger lift, if required, and the engine made to draw and pump to a 60 fathom level, 34 fathoms deeper than the present bottom level: 100*l.* should make this shaft complete, with the exception of wood to secure the first two or three fathoms from surface.

To put an engine on Welsh's shaft will require it larger from surface to bottom; a depth of 66 fathoms, at (say) 2*l.* per fathom—total, 132*l.* This, besides adding more cost, will only leave one shaft to draw from. Put the engine on the old engine-shaft, and keep Welsh's for drawing, for which it is, at present, as large as requisite: 100*l.* will make the old shaft a sufficient size to draw and pump from.—A MINER: *Newtonstewart, March* 26.

P.S.—Take out the water, and I think there is a good speculation, far exceeding the present operations.

THE WHEAL MARIA MINE.

SIR,—Being in possession of an estate on the banks of the River Tamar, opposite to the celebrated Maria Mine, whereon the people going to and fro to the said mine are continually trespassing, and in which they are encouraged by the agents, for whose convenience they keep a boat, I have applied to them for satisfaction. Their answer is, that they will not give one farthing. I need hardly inform you, Mr. Editor, that, if this is persevered in, my estate will be entirely ruined. By your kindly inserting this notice, the attention of the adventurers, who are gentlemen of high standing, will be drawn to the circumstances, when they will, I am convinced, put an end to the trespassing. I do not know for what reason I have been so annoyed; my estate is my own free land, and is situated in another county from the mine. W. STEPHENS.

Latchley, Calstock, Cornwall, March 26.

[ADVERTISEMENT.]

BRUCUTU GOLD MINES, BRAZIL.

SIR,—Having seen an advertisement in your Journal, dated the 20th inst., offering a reward on the conviction of the parties who had *surreptitiously* and fraudulently obtained the maps and plans of the Brucutu Gold Mines, I beg to lay the following statement of facts before you, and have to request you will favour me by its insertion. On the 2d of March inst., Mr. Bartlett informed me that I was at liberty to take the maps and show them to any party who might feel inclined to enter into the speculation, as he and his friends could do nothing in the matter. On the 12th, a gentleman, whom I had been negotiating with, requested I would show them to him, with all the papers and specimens (which were my own). I then requested Mr. Bartlett to allow me to take the same, and, with the full understanding on his part, I went to his office, and Mr. Mars, who belongs to the office, took them down and gave them to me. I cannot understand what motive could have influenced Mr. Bartlett in inserting the advertisement, as it was perfectly well known to him and others in the office, in whose possession they were; and on the 22d inst., on my meeting Mr. Bartlett at this hotel, he expressed himself perfectly satisfied to me as to their possession. Since the advertisement appeared, the maps and plans have been returned to Mr. Bartlett, and I have instructed my solicitor to take such steps as may be advisable. WILLIAM VERRAN.

Queen's Arms Hotel, Cheapside, March 30.

THE OLD SPANISH-AMERICAN MINING COMPANIES.

TO THE EDITOR OF THE TIMES.

SIR,—It seems almost a phenomenon, in a country so commercial as England, where habits of business pervade, to a certain extent, all classes, that so much apathy is found to exist among shareholders as to the doings of boards of direction. It is true that the ordinary tactics of directors are not very favourable to strict investigation at the times when public inquiry is alone possible—viz., at the general annual meetings, for on such occasions we usually find a director put into the chair, or fixed at the elbow of the chairman, who possesses the greatest share of that spurious kind of fluency which Burnet describes as "a sleight of tossing some arguments from hand to hand, with a gibberish kind of language, which sounds like something sublime, but has really nothing in it," so that when some sharpsighted shareholder chances to ask for more precise information than the report condescends to afford, he generally gets a reply "full of sound, yet signifying nothing," but which being vouched for by the rest of the board, too often silences the inquirer, and satisfies the other shareholders present. A better epoch, however, for shareholders in general seems to be approaching; and railway proprietors at least, when mismanagement is suspected, are beginning to bestir themselves, in the belief that Heaven helps those who are their own helpers.

General reflections like these are not inopportune with reference to the affairs of the following companies.—1. The Anglo-Mexican Mining Company.—2. The Columbian Mining Company.—3. The New Granada Mining Company.—4. The Mexican and South American Company. The first named company, besides its scrip shares, has, or rather had, a capital of 1,000,000*l.* sterling all paid up, and its 100*l.* shares are now quoted at the very flattering price of 5s. per share. During a period of 25 years the directors have squandered away, upon the unwatering and the working of worthless mines, about 1,200,000*l.* sterling: and although they could never manage to give their own shareholders a 6d. of dividend, they could, a few years ago, mismanage to give up to the native proprietors the Mellado Mine, shortly before it came into *bonanza*; this mine, too, being the only one of the company's mines that has turned out anything like productive. The Columbian and the New Granada companies are reported to be winding up their affairs in a not very much better plight; and the Mexican and South American shares (8*l.* paid) dropped, some short time ago, to 10s. per share, in consequence of certain smelting operations in Chili, which, it is said, were not announced to the shareholders until after their failure, and which it is doubtful if the company's Deed of Settlement authorised the directors to undertake.

Facts like these justify dissatisfaction, and call aloud for inquiry. Directors are trustees, in whom a large measure of confidence must necessarily be put, and—whether in the present cases such trust has or has not been betrayed—whether such confidence has or has not been misplaced—inquiry as to the why and wherefore of these ruinous losses of property is equally called for. I would, therefore, counsel the shareholders of the companies in question to convene special meetings, and appoint committees of investigation selected from themselves, and then, perhaps, the real causes of failure will be laid open.

Charles-st., St. James's, March 24. ——— C. RICHARDSON.

The following letter contains some satisfactory corrections regarding one of the companies alluded to in the above communication:—

SIR,—In the City article of the *Times* of yesterday there appears a letter, signed C. Richardson, in which the writer, speaking of the affairs of this company, says—"The Mexican and South American shares (8*l.* paid) dropped some time ago to 10s. per share, in consequence of certain smelting operations in Chili, which, it is said, were not announced to the shareholders until after their failure, and which it is doubtful if the company's Deed of Settlement authorised the directors to undertake." Three things are herein stated—1. That the directors entered into smelting operations in Chili, of which the shareholders were not informed until after their failure.—2. That the operations in Chili have failed—and 3. That it is doubtful if the directors have not exceeded their powers under the company's Deed of Settlement. When a gentleman puts his name to what he writes, he is entitled to be treated with respect. He cannot intend to state that which is erroneous. But it does happen that the statements of this gentleman are, in every particular, wholly unfounded.

1. In the report of the directors, presented to the proprietors at their annual general meeting, held on the 9th of June, 1847, the directors stated that they had been anxiously engaged, for several weeks previous, in a negociation for securing to this company the smelting of copper in Chili, under the patent known as "Napier's patent." They stated, in the said report, the grounds on which they had entered into this undertaking, and their reasons for believing it would prove highly advantageous to the company. The report was received and adopted without a single dissentient voice. In order to keep the proprietors fully informed of what was being done in this matter, the directors issued, on the 20th of September following, a circular letter to each of them, informing them, that in order to carry the aforesaid undertaking into effect, they had dispatched a complete establishment of smelters and materials to Chili in the *Sir Charles Forbes*. At the annual general meeting of proprietors, held on the 14th of June, 1848, the directors further stated, that the smelting party had arrived in Chili, that the superintendent had secured a site for the smelting-works, and that he was proceeding with the other necessary measures for carrying forward the undertaking. Thus, it appears that the proprietors have been fully informed of the commencement and progress of this undertaking.

2. With respect to its having proved a failure, the smelting had not, by the last advices, even commenced. The necessary buildings and furnaces were in such a state of advancement, that it was expected smelting would commence in about another month. Not only has no failure occurred, but there is no reason to apprehend any failure in any particular.

3. With respect to the powers of the Deed of Settlement being exceeded, it so happens that the company has no Deed of Settlement. The constitution of the company, and the powers of the directors, are defined in the certificates of shares held by the proprietors. A reference thereto will show that the directors have in no respect exceeded their powers. GEORGE COPPARD.

Office of the Mexican and South American Co., Broad-st.-mews, March 29.

[From the *Plymouth Journal.*]

WHEAL ANDERTON.—The lode in the 70 fm. level west has considerably improved since our last, and is still improving. The 80 fm. east has passed through a branch of the cross-course, and there is a good lode on the eastern side of it. The 90 fm. level is richer than either the 70 or 80 fm. levels were in this part of the mine. The 13¼ tons of tin sold on the 17th inst., averaged rather more than 50*l.* per ton. This mine may now be placed in the list of paying mines.

TAVISTOCK CONSOLS (late Wheal Ash, &c.)—On the Wheal Ash lode, in the shaft, there is still a very large course of mundic, and the leader of spar, peach, and ore on the northern part of the lode still increases.

EAST CROWNDALE.—On the Rix Hill lode a very considerable quantity of tin continues to be raised, and the lode in the end is good.

WHEAL FRANCO.—There is little change here since our last. The managers have directed that a level shall be driven westward on the lode, at the 62 fm.—a very judicious course, but one which will be attended with a very considerable outlay, unless ore be met with there.

PLYMOUTH WHEAL YEOLAND.—The Old South Lode has not been cut either above or under the slide in the 32 fm. level. New South Lode: the ore ground here is extending, and although there is no certainty of its continuance, there is a strong probability that this will make a good mine.

PLYMOUTH WHEAL YEOLAND EAST.—The lode is still being cleared in the old mine's workings, and the engine-shaft on the western side of the road is being cleared up.

BIRCH TOR AND VITIFER MINES.—Birch Tor Lode: in sinking Prideaux shaft the ground is somewhat harder than it has been, but the improvements in the lode more than compensates for the increased expense. Vitifer Lode: the course of ore here is considerably improved; the pitches are unaltered. There is a considerable improvement reported to have taken place in a new shaft, but, as we have not particulars, we must postpone further notice of this for the present.

CALSTOCK UNITED.—A pair of men are driving the 42 fm. level east towards the slide, on the other side of which, in the shallow levels, the old men returned large quantities of tin. There is a good lode in the present end; two pitches are also working at 5s. in the 1*l.* Preparations are being made for putting in another set of stamps. A batch of tin was sent off from the mine on Monday last.

WHEAL CALSTOCK.—In the deep adit east the men have commenced driving south on the other side of the cross-course, to intersect the main lode. The killas is very soft and full of branches of copper ore—a good lode is, therefore, expected. A pair of men are engaged clearing the old level east, driven on a part of the main lode; the pitch is looking well. No alteration in the other parts of the mine.

METALLIC PRODUCE OF RUSSIA.

The following is a statement of the aggregate of the metallic produce of the Russian empire for the year 1848, from the official documents:—

Gold amounted to	1,826	poods
Platina	1¼	„
Silver	1,192	„
Copper	254,569	„
Wrought-iron	8,513,673	„
And salt	24,733,208	„

Taking the pood at 36 lbs. avoirdupois, and measuring the gold by the English standard of fineness, the production of the year would amount to 3,944,832*l.*, or allowing for the fraction which the pood is more than 36 lbs. avoirdupoise, to rather upwards of 4,000,000*l.* sterling. The production of silver is comparatively insignificant, but taking it at 5s. 6d. per ounce, it would amount to about 188,000*l.* The production of the Russian mines possesses the more interest at present, inasmuch as a parellel may soon be drawn between it and that of the Californian "El Dorado."

THE WEST INDIA MAIL.—The Royal Mail steam-ship, *Dee*, arrived at Southampton, yesterday evening, with the usual mails. On her homeward voyage, the *Dee* experienced the most stormy weather; heavy north and north-east gales the whole passage. The *Dee* brings on freight $2,239,984 on merchants' account, 688 serons of cochineal, 49 ditto of jalapa, 66 cases of cigars, 6 packages of coffee and potatoes, and a general cargo, consisting of 20 boxes and 11 casks of arrowroot, 34 small packages, 3 cases of wax figures, 4 cases of gum, and 1 case of plants.

MINING IN SOUTH AUSTRALIA.—In the *Mining Journal* of the 27th Jan. last we were enabled, by a special communication from our intelligent correspondent at Adelaide, to give some particulars of the strike at the Burra Burra Mines. We then stated that the dismissal of Mr. Burr, the superintendent, was for having over estimated the produce of the ore raised, and thus the tributers were paid too large a per centage. We now understand his orders were to raise no ore of less than 25 per cent. produce, but that he allowed much poorer ore to be brought to surface, and that, from deficient analysis, the men received more than they were entitled to. The assay, until the period under notice, was agreed to by both parties; but the directors having become dissatisfied, they obtained a number of different analyses in Adelaide, and found that those of Mr. Elphick, of Rundle-street, Adelaide, were the most correct, and appointed him analyser to the mines. It was then arranged that each miner's parcel should be divided into three lots—a sample to be taken from each for the miner, the captain, and Mr. Elphick; but the miners had become as dissatisfied with the Adelaide assay as the directors were previously with those at Burra Burra. The following is the substance of the memorial of the miners to the directors:—It was with much regret they noticed the subject of wages—that to enable them to claim the title of honest men their wages must be raised—that with the deductions for rent, club, and doctor, candlelight, and firing, they had not sufficient to sustain themselves and families. Considering the distance from Adelaide, they could not hope that provisions would be cheaper; they submitted the fact to the board, that they had then been running into debt for weeks past, and, therefore, they felt justified in refusing to take work at the specified wages. They had come to the determination to turn in all hands (tributers and tutwork-men) to dress the ores, have a speedy settlement, and then leave for a more eligible spot. The papers we have since received contain no account of the measures taken by the directors, or the results. The half-yearly meeting of the company was announced for the 18th Oct., and the report of the directors was being looked forward to with much impatience, to clear up the difficult points. The only remaining intelligence of interest is an account of some shocks of an earthquake felt at Adelaide and Burra Burra, about four o'clock in the morning of Thursday, Sept. 15, at the former place, and at the same hour the next morning at Burra Burra. The latter was most severe, resembled the rolling of heavy carriages, and made the furniture tremble, and the glasses jingle, in the houses. The shock was followed by a flash of electricity so brilliant, as to illuminate the whole atmosphere.

IRISH WASTE LAND IMPROVEMENT SOCIETY.—We understand that arrangements are in progress for winding up the affairs of this society, which has been established for some years, but which, like almost all other interests connected with the land, has been paralised by the protracted famine and its desolating effects. A tract of mountain, in the county of Sligo, upon the reclamation of which the society had expended 8000*l.*, is to be given up to the lessor. A small sum, which the society had borrowed from Government, has been refunded, and, in a short time, all other liabilities are to be discharged.

PEMBROKESHIRE IRON AND COAL COMPANY.—Saundersfoot and its environs have, these last few days, presented a scene of the most animated description, in consequence of the above company having, on the 20th inst., started an engine 45-horse power—an event which created amongst the working classes a degree of excitement unrivalled in the county. During the greatest part of that day, flags were flying, cannons firing, and music playing; and at 2 o'clock the manager, Mr. Hosgood, who is remarkable for his activity, went to work with his coat off, amidst deafening shouts of huzzas from the assembled crowds. Mr. Hosgood took the whole management of the engine on himself, assisted by his son; and, by his great experience, the whole of the machinery were put in motion, without the least mischance or accident whatever, and in a manner which cannot fail to reflect on him the highest credit, as well as advantage to those whose trust he watches over. On Monday last, blast was put to one end of the furnaces; and it is more than probable that in a short period the above iron-works will be a first-rate one—not only beneficial to the company, but also a boon to the neighbourhood and the county at large.—*Cambrian.*

THE ELECTRIC LIGHT.

[Specification of patent granted to Youngll Allman, of Charles-street, St. James's-square, West, consulting engineer, for certain improvements in apparatus for the production of light from electricity, enrolled March 28, 1849.]

Mr. Allman has confined his efforts to the improvement of the arrangements and mechanical details requisite to ensure the production and maintenance of a steady and brilliant light from a current of electricity, and in this he seems to have succeeded. The specification enrolled in the Chancery-office is of some length, and, from the nature of the invention being as above stated, no adequate exemplification can be given of it by words alone; but the main features of the invention consist in the arrangement of the electrodes, poles, or luminous terminals, employed in producing electric light, and likewise in the battery.

This invention is carried into practical effect by several different arrangements—viz.:

1. By a peculiar arrangement of an ordinary *permanent magnet and conductor*, by which the contact of the two electrodes is broken, and the electrodes maintained at the proper distance for producing the light, the same being regulated according to the quantity and intensity of the electric current, by means of the action of an artificial upon a permanent magnet, the power of the first being the electric current, which produces the light also.

2. By the peculiar arrangement of *permanent and induced magnets* combined, by which the electric current is made to pass into an induced magnet over the permanent magnet, and conveyed by a thin strip of silver foil into and along such permanent magnet; and then, by the same means, to an induced magnet beneath, from which it passes to the holder of the top electrode, and through the lower elect rode to the battery.

3. By the arrangement of two *induced magnets*, so disposed that, when a current of electricity is sent through them, it causes them to repel each other, and produce the required upward movement of the electrode. The substitution of an apparatus, with the arrangement of poles reversed, will allow attraction to be employed, in lieu of repulsion.

4. *By calorific effects.* The arrangement for carrying this into practical effect consists in the use of a horizontal lever, whose axis is attached by a coil of Newal's copper wire to the holder of the upper electrode; whilst the other extremity slides up and down the side of a vertical standard, having a spring attached, pressing that extremity upwards, and forcing the upper electrode down upon the lower one. A compound vertical rod is placed behind the standard, which is screwed at top, and fitted with a nut, regulating a second spring, fixed beneath it, counterbalancing the first. This compound rod is of peculiar character, and by this arrangement the upper electrode will be raised.

[A modification of this arrangement is described in this specification; but as Mr. Allman has omitted to annex the drawing referred to in connection with it, it is impossible to supply an intelligible idea of it.]

5. By *decomposing effects*, which is carried into practical effect by an arrangement of apparatus, by which two platina plates are suspended, about 1½ in. apart, and respectively connected to the battery and the holder of the lower electrode, in a cylinder placed in a vessel containing sulphuric acid and water. As decomposition goes on, and gas is evolved from the liquid, a portion (which can be regulated by the apparatus) will escape; whilst the remainder, which is prevented from escaping, will lift up a button, placed beneath the ends of two levers, centered on two pins—the extremity of one being attached to the holder of the lower electrode, and the extremity of the other travelling over a graduated quadrant. As gas is generated, and according to the quantity permitted to escape at stated intervals, the free ends of the levers are lifted, by which the lower electrode will be drawn down from the upper one, and the intensity of the current denoted on the quadrant.

The regulation of the supply of liquid to the battery is effected either by an apparatus, by which the specific gravity or degree of saturation or exhaustion is made to regulate the supply of liquid thereto, by a ball cock, or, when the supply is to be drawn from a distance, by the use of hydraulic machinery.

The claims are in terms corresponding with the foregoing.

NEW PATENTS.

J. Macintosh, Bedford-square, for improvements in furnaces and machinery for obtaining power, and in regulating, measuring, and registering the flow of fluids and liquids.

A. Parks, Harborne, Stafford, chemist, improvements in the deposition and manufacture of certain metals and alloys of metals, and improved mode of heating and working certain metals and alloy of metals, and in the application of the same to various useful purposes.

J. Mason, Rochdale, Lancaster, machine maker, and G. Collier, Barnsby, York, manager, for certain improvements in machinery or apparatus for preparing and spinning cotton, and other fibrous materials, and also improvements in the preparation of yarns, or threads, and in the machinery or apparatus for weaving the same.

S. White, Victoria-place, Bury New-road, Manchester, gas engineer, for improvements in the manufacture of gases, and in the application thereof to the purposes of heating and consuming smoke, also improvements in furnaces for economising heat, and in apparatus for the consumption of gases.

D. Henderson, of the London Works, Renfrew, Scotland, engineer, for improvements in the manufacture of metal castings.

G. Thomson, Camden-road, cabinet maker, and J. Elms, gent., New-road, for improvements in machinery for cutting and tying up fire-wood.

W. Buckwell, of the Artificial Granite Works, Battersea, Surrey, civil engineer, for improvements in compressing or solidifying fuel and other materials.

R. Satchell, Rockingham, Northampton, for improvements in machinery for depositing seeds, and hoeing and working land.

P. R. Guerin, Havre, for improvements in steering ships and other vessels.

C. Green, Birmingham, patent brass tube manufacturer, and J. Newman, Birmingham, manufacturer, for improvements in the manufacture of railway wheels.

J. T. Wilson, Glasgow, for improvements in the manufacture of sulphuric acid and alum.

G. H. Manton, Dover-street, Piccadilly, gun maker, and J. Harrington, Regent-circus, for improvements in priming, and in apparatus for discharging fire-arms.

W. Norton, Lascelles Hall, Lepton, York, fancy cloth manufacturer, for certain improvements in the production of figured fabrics.

F. Vanillon, Princes-street, of Hanover-square, manufacturer, for improvements in making hats, caps, and bonnets.

W. Hartley, Bury, Lancaster, engineer, for certain improvements in steam-engines.

J. Britten, Birmingham, manufacturer, for certain improvements in the means, apparatus, and appliances for cooking, preserving, preparing, and storing drinks and articles of food, and in preparing materials for constructing the same; also in constructing vertical roasting jacks and chains for the same, applicable to other chains, parts of which improvements are applicable to other similar purposes.

J. Lawrence, the elder, of Colnbrook, Middlesex, brewer, for an improvement or improvements in brewing worts for ale, porter, and other liquors, and in storing ale, porter, and other liquors.

J. Fletcher, Salford, Lancaster, manager, and T. Fuller, Salford, aforesaid, machinist and tool maker, for certain improvements in machinery, tools, or apparatus for turning, boring, planing, and cutting metal, and other materials.

O. Reynolds, Dedham, Essex, clerk, for certain improvements in railways.

T. Harrison, Liverpool, merchant, for certain improvements in the construction of baking ovens, and also certain machinery for working or using the same.

H. Howard, Railway-place, Fenchurch-street, London, for certain improvements in the manufacture of glass, also in the construction of furnaces for melting and fining the same.

W. Beckett, Northwich, Cheshire, draper, and S. Powell, Witton, in the same county, foreman, for certain improvements in the manufacture, making, or construction of certain articles of wearing apparel.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

J. W. Little, Bath, passengers' luggage label.
W. Burgess, Blackfriars-road, gutta percha ferrule.
J. Fuller and Co., Long-lane, Southwark, the bona fide ventilating hat.
P. R. Jackson, Salford Rolling Mills, improved railway waggon for minerals.
J. Skillicorn and W. H. Ogden, Liverpool, improved multiplex water closet.
J. J. Welch and J. S. Margetson, Cheapside, university jacket.
G. Osborne, Gondhurst, portable commode.
Browne, Marshall, and Co., Birmingham, railway waggon.—*Mechanics' Magazine.*

THE ELECTRIC TELEGRAPH.—The transmission of President Taylor's inaugural address, occupying about 98 lines, from Liverpool to London, cost *twenty-one pound sterling.* The same thing would have been done in America for as many dollars.

PROGRESSIVE MOVEMENT.—Mr. J. Thomas, a working engineer of Tavistock, has invented a condensing locomotive drag for the common roads, which is said to be of a very important and interesting nature. It is worked on the same principle as the railway locomotive, with the exception of the coughing or puffing, by which a saving of 20 per cent. is effected.—*Plymouth paper.*

CHESTER AND HOLYHEAD RAILWAY.—At the special meeting of the proprietors, held yesterday, the purchase of the Mold Railway was confirmed, by a majority of 37 to 9. The following was given as the estimated traffic of the Mold Railway:—Passengers, 9432*l.*; parcels, 500*l.*; horses, carriages, and dogs, 500*l.*; mails, 713*l.*; merchandise and agricultural produce, 710*l.*; cattle, 302*l.*; minerals, 10,000*l.*; gross traffic, 22,157*l.*; deduct for working charges 50 per cent., 11,079*l.*: net revenue 11,078*l.*: which, on the total cost of 185,900*l.*, will give a profit of 5*l.* 19s. 2d. per cent.

RAILWAYS AND THE COAL TRADE.—We learn from the local papers, that a company is in the course of formation for working the rich mineral district around Chesterfield. Tramways will convey the coal to the Midland and Sheffield, and Lincolnshire Railways. It is calculated that there will be a saving in the transit of coal, coke, and other minerals, of 2s. per ton to Sheffield by the latter line, and of 3s. per ton on the coal and coke going south by the Midland Railway.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 14 9—Carr's Hartley 14 9—Chester Main 14—Dean's Primrose 14—East Adair's Main 12—Holywell Main 14 3—New Tanfield 13 6—North Percy Hartley 14—Original Tanfield 12 6—Ord's Redhugh 13—Ravensworth's West Hartley 14—Ravensworth Pelaw 13 3—Tanfield Moor 13 6—Townley 13—West Hartley 15—Wylam 13 6—Wall's End Acorn Close 14 9 to 15—Bewicke and Co. 15—Framwellgate 15—Hotspur 14 6—Hilda 14—Killingworth 14 6—Northumberland 14 6—South Killingworth 11 6—Eden Main 15 9—Lambton Primrose 15 9—Belmont 16—Braddyll's Hetton 16 6—Bell 15 3—Hetton 17—Haswell 17 3—Keepier 16 3—Lambton 16 9—Lyons 15 9—Morrison 14 6—Russell's Hetton 16 9—Stewart's 17—West Keepier 15 9—Caradoc 16—Cassop 16—Hudson's Hartlepool 14 6—Heugh Hall 15—Kelloe 16 3—South Hartlepool 15 3—Thornley 15 9—Trimdon 14 3—Whitworth 13 3—Adelaide Tees 16 3—Bishop's Tees 16 6—Seymour Tees 15—Tees 17—West Hetton 15—Cowpen Hartley 14 9—Hartley 14.—Ships at market, 188; sold, 100.

WEDNESDAY.—Buddle's West Hartley 14 9—Carr's Hartley 14 9—Davison's West Hartley 14 9—East Adair's Main 12—Holywell Main 14—New Tanfield 13 6—North Percy Hartley 14—Ord's Redhugh 13—Tanfield Moor 13 6—Townley 13—West Hartley 14 9—Wylam 13 6—Eden Main 15 9 to 16—Cowpen Hartley 14 9—Hartley 13 9—Nixon's Merthyr 20 6—Wall's End Acorn Close 15—Framwellgate 15—Harton 15—Hilda 14 3—South Killingworth 11 6—Belmont 16—Braddyll's Hetton 16 6—Hetton 17—Haswell 17 3—Lambton 16 9—Lyon's 15 9—Morrison 14 9—Russell's Hetton 16 9—Stewart's 17—West Cornforth 15.—Ships at market, 119; sold, 54.

FRIDAY.—Davison's West Hartley 14 6—East Adair's Main 12—Holywell Main 14 3—New Tanfield 13—Original Tanfield 12 3—Tanfield Moor 13 6—Townley 12 9—West Hartley 14 6—Wylam 13 6—Gwaun Cae Gurwin Anthracite 26—Hartley 13 9—Howard's West Hartley Netherton 14 6—Nixon's Merthyr 20 6—Wall's End Bewicke and Co. 15—Brown's Gas 12—Framwellgate 15—Percy Bensham 13 6—Riddell's 14 6—South Killingworth 12—Braddyll's Hetton 16 6—Hetton 17—Haswell 17 3—Lambton 16 9—Morrison 14 3—Russell's Hetton 16 9—Stewart's 17—Shotton 15 6—Kelloe 16 3—Bishop's Tees 16—Seymour Tees 15—South Durham 14 9—Tees 17.—Ships 89, sold 46.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., —	Belgian, 4½ per Cent., 82¾
3 per Cent. Reduced Ann., —	Dutch, 2½ per Cent., 49¾ 50
3 per Cent. Consols Ann., 92¾	Brazilian, 5 per Cent., 81¾
3¼ per Cent. Ann., —	Chilian, 3 per Cent., 57
Long Annuities, —	Mexican 5 per Cent., 31 ¾
India Stock, 10½ per Cent., 245	Russian, 5 per Cent., 104½
3 per Cent. Consols for Acc. 91¾ ⅞	Spanish, 5 per Cent, 17 16¾
Exchequer Bills, 1000*l.* 2d. 35 38 pm.	Ditto 3 per Cent., 29¾ 30¼

MINES.—A fair proportion of business has been done in the mining share market during the week. Condurrow is represented to continue progressing; shares are in request at our present quotations. Tincroft, Lewis, and Tamar shares are in demand; the mines looking remarkably well. The report received of Trelawny this week has produced a demand for these shares, at improved prices. The following shares have been inquired for at buyers prices:—West Caradon, East Pool, East Buller, Great Rough Tor, Mary Ann, South Wheal Basset, West Buller, &c. East Tamar is represented to have considerably improved, especially in the shaft and 25 fm. level. At South Tamar the 70 fm. level has much improved.

East Buller shares have been sought for. This mine, we learn, joins Wheal Buller on the east, and is in the midst of the leading mines of the county. Although recently taken up, the shares have freely changed hands at a considerable premium.

Alfred Consols, Bedford United, and Holmbush, are also among those reported to have improved.

Shares in the following mines have changed hands during the week:—Devon Great Consols, South Basset, Treviskey and Barrier, Wellington, Condurrow, Drake Walls, Trehane, Trelawny, West Caradon, East Pool, East Buller, Kingsett and Bedford, Tincroft, Tamar, Lewis, Mary Ann, Heignston Downs, East Tamar, South Tamar, West Providence, Cwm Erfin, South Wales Mining Company, Bwlch Consols, Llawr Cwm Bach, West Tolgus, Alfred Consols, Brewer, Mendip Hills, South Molton, Stray Park, Treleigh Consols, West Wheal Jewel, &c.

The first annual meeting of Low's Patent Copper Company has been held, at which a report was read, in which the directors state that they have not ventured to give any statement of profit and loss, as, in consequence of the smelting operations, up to the end of 1848, having consisted almost exclusively of experiments to ascertain the effects of the new process on the various description of ores, any calculation of gain or loss arising from them would, in all probability, prove erroneous. The results of the numerous experiments, however, which have been made with the new processes of smelting are highly satisfactory, showing a considerable saving of expense; while the quality of the metal, which has been subjected by consumers to their severest tests, has been universally approved. They have selected an eligible site for their works on the River Burry, near Swansea.

At the Carn Brea annual general meeting the accounts showed a balance of 14,491*l.* 0s. 9d. in favour of the mine. The proceeds of sales of ores have been —Copper, 58,984*l.* 19s. 4d.; black tin, 11,677*l.* 14s. 8d.=70,662*l.* 14s. The dividends paid during last year were as follows:—Feb. 9, 2000*l.*; April 15, 3000*l.*; June 15, 3000*l.*; Oct. 20, 3000*l.*; Dec. 20, 3000*l.*—total, 14,000*l.* Another dividend of 3*l.* per share was declared, payable on the 12th of April next. This month's sales (being January returns) will leave a profit of 3400*l.* on the month's workings.

At the Callington meeting the accounts showed a balance of 284*l.* 2s. in favour of adventurers. The reports of Capts. Phillips and Floyd were considered favourable: it was determined that the Kelly Bray Mine should be vigorously prosecuted, for which purpose calls will have to be made.

At the East Wheal Crofty meeting the accounts showed a balance in favour of adventurers of 2127*l.* 15s. 1d. The sales of ores in the two months had been 3001*l.* 12s. 7d.

At the Holmbush meeting the accounts showed a balance of 320*l.* 8s. against the mine. The agents' reports were very satisfactory.

The Tresav an ac ounts show a balance in favour of 874*l.* 15s. 6d. The sales of ore in the two months amounted to 2328*l.* 3s. 9d.

The Trethellan accounts show the balance at bankers as 313*l.* 2s. 5d. The ores sold in the two months amount to 388*l.* 8s. 9d.

At the Tregorden meeting a balance of 218*l.* 9s. 10d. was found against the mine, to discharge which, and for future operations, a call of 1*l.* per share was deemed necessary. The captain's report of the mine represents the 12 fathom level end as worth 5*l.* per fm.; the back and bottom, more than capable of paying costs of working; they have commenced driving the 12 fm. south—the lode being orey throughout. The lode in the 20 fm. level, north and south, is orey, though not rich; but indicative of improvements. The lode in the north shaft is again drained, from whence, in course of a short time, returns will be made. In about three weeks, 5 tons of silver-lead ore will be ready for sale, estimated at 20*l.* per ton.

At the Carthew Consols meeting a call of 4s. 6d. per share was made.

At the Exmoor Wheal Eliza meeting the accounts showed a balance against the mine of 40*l.* 0s. 5d. A call of 10s. per share was made.

At the Wheal Penhale meeting a call of 5s. per share was made.

At the Great Rough Tor meeting the proposal to take the 135 forfeited shares in one lot, on payment of the sum of 664*l.*, was accepted.

At the Wheal Trehane meeting the statement of accounts showed a balance of 690*l.*; a dividend of 2*l.* per share was declared, leaving a balance of 178*l.* 2s. 3d., which is carried to the credit of the next account. About 74 tons of rich silver-lead ore was sampled on Saturday last. The agent's report of the mine is satisfactory; they are progressing with the shaft, which is down 11 fms., and have 2½ fms. more to sink for their next level, which is expected will be completed in about three weeks.

Reports from the Australian Mining Company's agents, dated Tungkillo, Nov. 3 and Dec. 3, have just been received, and will be found among our Mining Correspondence. Capt. Phillips states his belief that the mine will turn out satisfactory.

In foreign mines, the following shares have been transacted during the week —viz.: United Mexican, St. John del Rey, Australian, Copaipo, Imperial Brazilian, Lanaire, and Guadalcanal.

The following arrivals of specie have taken place since our last:—The Peninsular and Oriental Steam Navigation Company's ship, *Madrid*, which arrived at Southampton on Tuesday morning, brought 11 packages of specie on freight, value 2700*l.* The Peninsular and Oriental Company's ship, *Ripon*, arrived at Southampton on Wednesday, having on freight 107 packages of specie, value 35,000*l.*

RAILWAY TRAFFIC RETURNS.

Names of Railways.	Lgth. Rway.	Present actual cost.	Price per share	Div. 1848	*Traffic* 1849	*Returns* 1848
Belfast and Ballymena	37½	——	21½	5 *p. c.*	£ 471	—
Birkenhead, Lancashire, & Chesh.	19	1,088,804	37	5 *p. c.**	797	585
Bolton, Blackburn, & West Yorksh.	14	786,384	7¼	—	372	—
Caledonian	141	4,865.135	23¼ ¾	—	4909	2800
Chester and Holyhead	84	3,014,602	18	4	1210	—
Dublin and Drogheda	35½	774,875	33½	—	744	655
Dublin and Kingstown	7½	395,915	—	—	655	679
Dundee, Perth, & Aberdeen June.	47½	544,554	24½	8	1016	753
East Anglian (Lynn to Ely)	67½	1,167,104	3½	—	622	487
East Lancashire	50	2,628,519	17½ ¼	5	1988	888
Eastern Counties and Norfolk	309¾	12,027,069	9½ 9	4	12668	12240
Eastern Union	50½	1,712,703	13	—	1150	1088
Edinburgh and Glasgow	57½	2,644,378	42	6	3501	3167
Edinburgh and Northern	78	2,232,115	12½	4*	1814	1085
Glasgow, Paisley, and Ayr	102½	2,286,353	50	4	2868	2135
Glasgow, Paisley, & Greenock	23	848,328	13¾	4	951	986
Gt. Northern & East Lincolnshire	110	4,255,171	11½	5*	1611	—
Gt. Southern & Western, Ireland	131	2,844,897	34½	4*	3410	1979
Great Western	305¾	11,608,815	92½ 95	7	18077	16664
Kendal and Windermere	10½	174,600	25½	—	112	118
Lancaster and Carlisle	70	1,476,102	53	4	2035	1380
Lancashire and Yorkshire	206½	9,218,450	72	6	11594	9014
London and North Western	435	25,077,942	132 4	7	37141	34753
London and Blackwall	4	1,299,675	5	1-12	417	692
London, Brighton, & South Coast	162½	6,382,281	36 37	2½	7436	6254
London and South-Western	216½	7,510,689	36½ ¾	6	8455	6973
Londonderry and Enniskillen	14½	171,026	10	—	143	145
Manchester, Sheffield, & Lincolnsh.	91½	6,048,679	39	5	3373	2068
Midland Company	471	14,042,340	76½ ¾	6	20384	18094
Midland Great Western (Irish)	50	725,332	23½	4*	1072	877
North British	99	3,163,450	14½	5	2614	1907
Scottish Central	45½	1,364,228	24½	—	965	—
Shrewsbury and Chester	47	969,618	14¾	5	1407	610
South Devon	55½	1,909,232	17	—	1747	926
South-Eastern	165½	8,116,914	23½ 3	6¾	6570	7105
Taff Vale	38	879,110	—	6½	2179	1957
Ulster	36	684,684	45¾	—	683	849
West Cornwall	13	——	—	—	246	—
Whitehaven Junction	12	150,879	109	3	—	173
York, Newcastle, & Berwick	269	6,827,849	23¼ 4	8	11336	10014
York and North Midland	255¾	4,983,618	45	8	6557	7439
FOREIGN RAILWAYS.						
Amiens and Boulogne	76½	573,338	8¼	4	1332	—
Dieppe	26	——	—	—	423	—
Dutch Rhenish	57½	——	1	—	821	876
Montereau and Troyes	71½	——	—	—	689	—
Northern of France	211	2,000,000	11	—	13492	12164
Orleans to Bourges (Central)	107½	——	—	—	2396	2628
Orleans to Tours	73	600,000	32½	6	3000	2738
Paris and Orleans	82	2,011,720	33¾	12½	7759	7668
Paris and Rouen	85	2,082,916	21½	—	5429	2504
Rouen and Havre	59½	——	11¾	—	2315	1185
Strasburgh and Basle (monthly)	88	——	6	—	5040	5394
West Flanders (ditto)	—	——	1½	—	823	1047

* Interest.—Total for last week, £182,561, being an increase of £24,505 over last year.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	8	8
1024	Alfred Consols	8½	7¼
1000	Antimony & Silver-Lead	5	5½
1024	Ashburton United Mines	8¾	8 10
1624	Balleswidden	9	18
128	Balnoon Consols	42½	50
10000	Banwen Iron Co.	6	6
1000	Barristown	5½	1½ 2
4000	Bedford	2	2½ ¾ 3
1244	Birch Tor Tin Mine	9	5
8000	Blaenavon	50	17½
100	Botallack	182	27 27½
120	Brewer	8	7
10000	British Iron, New, regis.	12	8
—	Ditto ditto, scrip	10	10
128	Budnick Consols	52½	35
1000	Callington	20	11 13
1000	Camborne Consols	5	3½
20000	Cameron's Steam Coal	6	1
256	Caradon Copper Mine	9½	2½
256	Caradon Mines	22½	10
256	Caradon United	24	5 8
256	Caradon Wh. Hooper	21	4½
1000	Carn Brea	15	95 100
3000	Carthew Consols	1½	5
114	Charlestown	220	—
512	Coatlithe Hill	½	1
500	Combiawn	5½	4½
128	Comfort	45	80
256	Condurrow	20	90 95 100
2560	Cook's Kitchen	14	2½ 3
1000	Coombe Valley Quarry	3½	4½
1000	Copper Bottom	1½	6½
212	Craddock Moor	23½	5
128	Creeg Braws	120	30
500	Cubert Mine	12½	—
1000	Cwm Erfin	3	3 4
300	D. Prior & Buckfastleigh	—	—
7100	Derwent	8½	5
845	Devon & Courtenay Con.	7¾	¾
1024	Devon Great Consols	1	205 215
1000	Dhurode	2	5
186	Dolcoath	30	15
2560	Drake Walls	5½	4 5
10000	Durham County Coal	45	9
3000	Dyngwm	10	12½
512	East Alvenney	5½	5½
2500	East Birch Tor	3	3½
112	East Caradon	47	47
2048	East Crowndale	6½	4
512	East Combe Silver-Lead	6½	6½
128	East Pool	15	75 80
9000	East Tamar Consols	¾	⅝ ⅞
94	East Wheal Crofty	125	65 70
1024	East Wheal Fortune	2	3
128	East Wheal Rose	50	600
—	East of Scotland Iron Co.	5	1½
123	East Wheal Seton	14	10
1280	Esgair Lli	1½	2½ 3
256	Exmoor Wh. Eliza	6	6
494	Fowey Consols	40	45
1024	Freidd Llwydd Mines	1½	3½
6400	Gadair	2	2
4000	Gen. Mining Co. for Irel.	1½	1½
256	Gonamena	44½	16
128	Goonvrea	4	2
256	Grambler & St. Aubyn	80	10 20
100	Great Consols	1000	190 200
512	Gt. Wh. Rough Tor Con.	18½	12
2000	Growa Slate Company	5	5
256	Gwinear Consols	7	1
6000	Heignston Down Con.	1½	2 2½
256	Herodsfoot	27	19 20
10000	Hibernian	12½	1¾
239	Hobb's Hill	6	1½
1000	Holmbush	22	5
1024	Kingsett and Bedford	½	4
827	Kirkcudbrightshire	8½	2
2048	Lamberooe Wh. Maria	13	2
252	Lanarth Consols	—	4
128	Lelant Consols	90	40
160	Levant	—	180 200
1000	Lewis	16	10½
1000	Llwyn Malees	7½	5
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	19	14
6000	Marke Valley	10	¾ 1
5000	Mendip Hills	3	1½
128	Metha	34	140
20000	Mining Co. of Ireland	7	4
256	New East Crowndale	3¾	2½
100	North Pool	45	650
140	North Roskear	5½	150
262	North Wh. Leisure	1½	2
15000	Northern Coal Co.	23	2
128	Par Consols	55¾	800
8000	Pennant & Craigwen	2	2
1024	Penzance Consols	16*s* 3*d*.	2
512	Plymouth Wh. Yeoland	6½	10
200	Polsaith Consols	5½	4½
2500	Rhoswiddol & Bacheidon	10	10
10000	Rhymney Iron	50	13
10000	Ditto New	7	6½
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12
2048	Runnaford Coombe Tin	¾	2 3½
9000	South Tamar	¾	¾ 1
128	South Caradon	5	400
1100	South Dolcoath	4	5

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	Sth. Friendsh. Wh. Ann	20	4
256	South Molton	5 15	17 20
256	South Tolgus	14	50 55
256	South Trelawny	28½	2 3
2000	South Wales Mining Co.	½	1 1½
128	South Wheal Basset	20½	250
124	South Wh. Frances	100	230 40
256	South Wh. Josiah	—	3
1000	South Wh. Maria	2½	1½
10000	Southern & Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	—
94	St. Ives Consols	—	70 90
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	17½ 19
9600	Tamar Consols	3	6 ½
1024	Tavy Consols	6	1
6000	Tincroft	7	10 10½
1000	Tin Vale	2½	2½
56	Tokenbury	170	10
256	Tregordan	2	8
256	Trehane	1½	28
5000	Treleigh Consols	6	1½ 2
2000	Trenance	3	—
96	Tresavean	10	150
120	Trethellan	5	15 16
120	Treviskey and Barrier	130	88 93
288	Trevean	1½	5
100	United Mines	300	200
256	Wellington Mines	25	40 45
128	West Buller	10	270
256	West Caradon	20	110 115
512	West Fowey Consols	40	12
256	West Providence	9	15
200	West Seton	40	220
—	West of Scotland Iron Co.	240	90
120	West Trethellan	5	25
256	West United Hills	—	4½
512	West Wheal Frances	1½	2
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	11	½ 1½
256	West Wheal Tolgus	80	12 13
256	West Wheal Treasury	19	4½ 5½ 8
1024	Whiddon Mines	4½	2
5200	Wicklow Copper	5	8¾ 8½
107	Wheal Adams	79	30
1000	Wheal Agar	—	8
256	Wheal Albert	10	1
240	Wheal Anderton	25½	29½
128	Wheal Ann	—	50½
512	Wheal Anna Maria	6½	8
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	15
256	Wheal Benny	14½	2
256	Wheal Blencowe	21	5
256	Wheal Bucketts	20	8
256	Wheal Calstock	5	12
1024	Wheal Coad	1	4
268	Wheal Courtenay	12½	15
256	Wheal Fortescue	6½	—
388	Wheal Franco	27	13½
128	Wheal Harriet	45	—
100	Wheal Henry	—	20 5
112	Wheal Margaret	79	200
512	Wheal Mary Ann	5 15	16 18
208	Wheal Mary Consols	60½	8
—	Wheal Penhale	—	12
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	3
99	Wheal Seton	214	550 600
180	Wheal Sisters	35½	5
494	Wheal Sophia	4½	5
128	Wheal Spearne	10	75
128	Wheal St. Ann	30	35
550	Wheal Trescoll	7	20
260	Wheal Trelawny	7½	75 80
256	Wh. Tremaine (St. Ervan)	9½	2½
1024	Wheal Tremayne	9½	3
92	Wheal Tryphena	140	265
1000	Wheal Vincent	2	7
256	Wheal Vlow (Perranz.)	¾	¾
184	Wheal Vyvyan	—	60
250	Wheal Williams	28¾	8
1024	William & Mary Worth	2	2½

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	2½
15000	Asturian Mining Co.	15	3½ ½
20000	Australian	3	5¾ 6
19000	Anglo-Mexican Co.	100	¾
12374	Ditto Subscription	25	1½
6000	Barossa Range	1¾	2 2½
3000	Bolanos	110	2¾
2000	Ditto Scrip	11	2½ 2½
10000	Brazilian Imperial	23	5
12000	Cobre Copper Co.	40	22½
10000	Copiapo Mining Co.	14	4 4½
20000	General Mining Ass'n.	20	13
4000	Guadalcanal	5	11 13
5000	Kinzigthal Mining Ass.	2	3
5051	Mexican Company	59½	—
2000	Mexican & South Amer.	8	1 1½
5000	National Brazilian	30	3½ ¾
104000	N. Brit. Australasian	1	5*s* 9*d*
7000	Royal Santiago	10	5½
11000	St. John del Rey	15	11½ 11½
13174	United Mexican … Av.	28½	4½

*** We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, MARCH 30, 1849.

	£	s.	d.
ENGLISH IRON. *a* ... *per ton.*			
Bar, bolt, & square, London	£7	0	0
Nail rods	7	10	0
Hoops	9	0	0
Sheets (singles)	10	0	0
Bars, at Cardiff & Newport	6	0	0
Refined metal, Wales*	4	7	6
Do. anthracite*	4	7	6
Pig, No. 1, Wales, cold-blast	4	0	0
Do. do. hot-blast	3	15	0
Do., No. 1, Clyde … *net cash*	2	8	0
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	4	7	6
Do., do., for tin-plates, boiler plates, &c., ditto	4	10	0
Stirling's Patent Toughened Pigs, in Glasgow	3	3—3	6
Stirling's Patent Toughened Pigs, in Wales	4	0—4	15
Staffordshire bars, at the works	7	10	0
Pigs, in Staffordshire	3	0-3	15
Rails	6	0	0
Chairs	4	10	0
FOREIGN IRON. *b*			
Swedish	13	10	0
CCND	17	0	0
PSI	——		
Gourieff	——		
Archangel	12	10-13	
FOREIGN STEEL. *c*			
Swedish keg	14	10	0
Ditto faggot	16	10	0
ENGLISH COPPER. *d*			
Sheets, sheathing, & bolts, *p. lb.*	0	0	10
Tough cake … *per ton*	88	10	0
Tile	87	10	0
Old copper *e* … *per lb.*			8¾*d*
FOREIGN COPPER. *f*			
South American, in bond	£73-75		
ENGLISH LEAD. *g*			
Pig … *per ton*	£ 16–16	5	
Sheet	17	0	0
Red lead	17	10	0
White ditto	22	0	0
Patent shot	19	15	0
FOREIGN LEAD. *h*			
Spanish, in bond	15	10	0
American ditto	——		
ENGLISH TIN. *i*			
Block … *per cwt.*	4	12	0
Bar	4	13	0
Refined	4	19	0
FOREIGN TIN *k*			
Banca, in bond	4	17	0
Straits	4	15	0
Peruvian (6 mo 2½ p. ct. dis.)	——		
TIN-PLATES. *l*			
IC Coke … *per box*	1	9	6
IC Charcoal	1	13	0
IX ditto	1	19	0
SPELTER. *m*			
Plates, warehoused, … *per ton*	16	0	0
Ditto, to arrive	15	10	0
ZINC. *n*			
English sheet … *per ton*	22	0	0
QUICKSILVER *o* … *per lb.*	0	3	4½

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis; *e*, 6 months, or 2½ per cent. dis.; *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.
* Cold-blast, free on board in Wales.

REMARKS.—The metal market this week has been in a very dull and languid state. Welsh bars must be considered nominal at our quotation, sales having been made by intermediate holders as low as 5*l.* 10s. and 5*l.* 12s. 6d., free on board at the port. The business done in Scotch pig-iron has been very trifling, few parcels only having changed hands, at from 46s. 6d. to 47s. for mixed Nos., cash, free-on-board. We write the market flat at 47s. mixed Nos., 48s. all No. 1, and 46s. No. 3.

BIRMINGHAM, MARCH 30.—At the usual preliminary meeting of the ironmasters of South Staffordshire, East Worcestershire, and Shropshire, held at Dudley, yesterday, it was resolved to maintain, at the approaching general quarterly meeting of the trade, the existing prices of manufactured iron. It will be recollected that, since the meetings in January, there has been an advance of 20s. per ton. Pig-iron is scarce, and remains proportionately dear. It is understood to be the intention of the great ironmasters to advance the wages of their workmen in proportion to the advance in the price of iron.

GLASGOW, MARCH 29.—This has been a very dull week in pig-iron. The transactions have been few, and the price very little altered from our last week's quotations. The price of mixed Nos. may to-day be quoted at 47s. cash.

STATISTICS OF COPPER, TIN, AND LEAD.

A full and detailed account of the public Sales of Copper, Tin, and Lead, for the quarter ending the 31st of March, will appear in the MINING JOURNAL of Saturday next, the 7th of April. The statement, which will show the quantities and amounts from each mine, with the totals and the averages, and the proportions taken by the several purchasers, will be compiled and arranged by "PLAIN FACTS."

LEAD ORES

TICKETINGS FOR ABOUT 105 TONS LAXEY LEAD ORE.

Douglas, Isle of Man. March 24.

Bidders.	*Offer per Ton.*		
Mather and Co. (purchasers)	£20	1	6
Walker, Parker, and Co.	19	8	0
Thomas Somers	19	7	6
John P. Eyton	19	0	6
Newton, Keates, and Co.	17	17	0
Tamar Smelting Company	17	15	6
Sims, Willyams, Nevill, and Co.	17	12	0

Ticketings at the King's Head Hotel, Holywell, March 29.

Mines.	*Tons.*	*Amount.*			*Purchasers.*
Pen-yr-henblas	40	£10	8	6	J. P. Eyton.
ditto	38	10	8	0	ditto
Westminster	60	9	12	6	Walker, Parker, & Co.
Jamaica	40	10	7	0	Newton Keates & Co.
Belgrave	40	10	3	0	Walker, Parker, & Co.
Deep Level	36	10	3	0	Newton, Keates, & Co.
Catch	5	10	18	0	Walker, Parker, & Co.
Milwr	32	11	5	0	ditto
Barristown	29	11	6	0	Newton, Keates, & Co.
Cwm Brynog	11½	10	2	0	Walker, Parker, & Co.
Aberystwith	11	15	0	0	Newton, Keates, & Co.
Total tons	342½.				
Sold at Liskeard, on the 26th March, 1849.					
Wheal Trelawny	104	£19	7	6	T. Somers.
Sold in London, on the 26th March.					
Cwm Erfin	20	£12	15	6	T. Somers.
Sold at Bagillt.					
Machynlleth	40	£10	12	6	Walker, Parker, & Co.
ditto	15	9	8	0	Mather & Co.
Caeconsig	38	12	1	0	ditto
Bwlch Cwm Erfin	18	13	0	6	J. P. Eyton.
Rhoswyddol	25	9	18	6	ditto
Esgahir	9	8	11	0	ditto
Sold at London.					
Wheal Adams	30	£10	4	6	T. Somers.
Sold at the Mine.					
East Wheal Rose	56	£15	0	6	Tamar Company.
ditto	10	11	15	0	ditto
ditto	23	13	19	0	ditto
Sold at Aberystwith.					
Cwmystwith	55	£10	1	0	Walker, Parker, & Co.

BLACK TIN

Sold to the Charlestown Smelting-House on the 24th March.

Mine.	*Tons c. qr. lbs.*	*Price per ton.*	*Amount.*
Ashburton United	4 8 1 6	£54 5 0	£239 10 6
ditto	0 14 2 12	41 12 6	30 8 8

Total—5 tons 2 cwts. 3 qrs. 18 lbs.—Amount of money, £269 18s. 6d.

Mine.	*Tons.*	*Price.*	*Purchasers.*
Drake Walls	5¾	£53 5 0	J. H. Enthoven & Co.
ditto	3	51 10 0	ditto
ditto	7	42 7 6	Calenick Smelting Co.
ditto	1½	37 0 0	Williams and Co.
Charlestown	15½	50 2 6	Calenick Smelting Co.
ditto	¾	48 7 6	J. H. Enthoven & Co.
ditto	1	37 0 0	ditto
Runnaford Coombe	3½	57 2 6	Williams and Co.

COPPER ORES.

Sampled March 14, and Sold at the Royal Hotel, Truro, March 29, 1849.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
United Mines	106	£4 6 0	Tresavean	54	£4 13 0
ditto	105	5 6 6	ditto	53	4 8 0
ditto	103	4 3 6	ditto	32	3 16 0
ditto	101	5 13 0	South Caradon	92	8 6 6
ditto	100	3 6 0	ditto	68	6 16 0
ditto	83	4 2 0	ditto	44	10 4 6
ditto	82	4 5 0	ditto	35	5 5 0
ditto	63	5 4 6	ditto	26	7 4 0
Consolidated Mines	110	6 8 0	Trethellan	72	2 9 0
ditto	92	5 7 0	ditto	58	2 10 0
ditto	88	4 14 6	ditto	48	4 7 6
ditto	71	5 1 0	ditto	24	2 3 0
ditto	64	3 11 0	Wh. Comfort	94	4 15 0
ditto	60	5 4 6	ditto	91	1 14 0
ditto	52	6 4 6	Wh. Mary Consols	66	6 13 6
ditto	50	2 14 0	ditto	55	3 9 0
ditto	49	4 16 0	ditto	24	6 9 6
ditto	43	7 2 0	Perran St. George	58	5 4 6
Treviskey	124	8 18 6	ditto	29	9 18 0
ditto	101	6 18 6	Bolenna & Duchy	35	4 7 0
ditto	87	9 18 6	South Tolgus	62	5 19 6
ditto	56	3 7 0	ditto	31	5 14 6
ditto	48	5 4 6	Gramb. & St. Aub.	53	3 15 6
Par Consols	118	5 17 6	ditto	24	8 19 0
ditto	111	7 8 0	Wh. Ellen	50	5 19 6
ditto	86	4 15 0	ditto	20	9 10 6
Tresavean	85	4 4 0	Richards's ore	24	2 10 0
ditto	84	4 15 0	Andrew & Nangiles	21	2 15 0

TOTAL PRODUCE.

	Tons.	Amount.		Tons.	Amount.
United Mines	743	£3363 11 6	Wh. Mary Consols	145	£785 14 0
Consolidated	679	3510 9 0	Perran St. George, Bolenna & Duchy	122	742 8 0
Treviskey	416	3168 0 0	South Tolgus	93	547 18 6
Par Consols	315	1923 3 0	Gramb. & St. Aub.	77	414 17 6
Tresavean	308	1361 18 0	Wh. Ellen	70	489 5 0
South Caradon	265	2049 3 6	Richards's ore	24	60 0 0
Trethellan	202	583 0 0	Andrew & Nangiles	21	57 15 0
Wh. Comfort	185	601 4 0			

Average Standard … £107 5 0 | Average Produce … 7½
Average Price per ton … £5 6 0
Quantity of Ore … 3665 tons. | Quantity of Fine Copper, 276 tons 10 cwts.
Amount of Money … £19,598 6 6
LAST SALE.—Average Standard … £ 99 7 0.—Average Produce … 9½
Standard of corresponding sale last month, 104*l.* 0s.—Produce, 7.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	111	£619 3 1
Vivian and Sons	918	4954 14 0
Freeman and Co.	560	2812 5 4
P. Grenfell and Sons	645	3309 4 0
Crown Copper Company	29	72 10 0
Sims, Willyams, and Co.	462	1900 10 0
Williams, Foster, and Co	830	5245 8 6
Schneider and Co.	110	684 11 7
Total tons	3665	£19,598 6 6

Copper ores for sale on Thursday next, at White's Hotel, Pool.—Mines and Parcels.—North Pool 559—Wheal Seton 506—East Wheal Crofty 477—Camborne Vean 451—Fowey Consols 326—Tincroft 325—Condurrow 300—South Wheal Basset 281—East Pool 211—Dolcoath 178—South Wheal Frances 174—Wheal Mary 139—East Wheal Seton 8—East Crinnis 4—Mica Bay 3.—Total, 3942 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 890—Tywarnhayle 448—Par Consols 324—Wheal Agar 180—West Wheal Treasury 156—Wheal Tremayne 135—West Wheal Seton 123—Wellington Mines 114—West Wheal Buller 110—St. Ives Consols 26—Wheal Trenwith 17—Wheal Pleasant 17—Godolphin 5—Wheal Brook 2.—Total, 2547 tons.

COPPER ORES

At SWANSEA, for sale April 5.—Cobre 97, ditto 95, ditto 86, ditto 85, ditto 58, ditto 51, ditto 34—Cuba 110, ditto 114, ditto 85, ditto 44, ditto 43—Knockmahon 109, ditto 106—Berehaven 124—Giburra 65, ditto 14, ditto 1—Chili 52—Havana 54, ditto 5—Aberdovey 21—Cronebane 3—Tigrony 3—Total, 1439 tons.

Copper ores for sale April 12.—Cobre, 1035—Santiago 353—Berehaven 316—Giburra 71—Kapunda 64—Chili 48—Holden Slag 24.—Total, 1911 tons.

CURRENT PRICE OF GOLD AND SILVER.

		£	s.	d.			£	s.	d.
Foreign gold, in bars	per oz.	£3	17	9	New dollars	per oz.	£0	4	10¾
" Portugal pieces		0	0	0	Silver in bars (standard)		0	5	0

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver coin to Hamburgh, 5590 ounces; ditto to Rotterdam, 4000; ditto to Bremen, 1730; ditto to Belgium, 3000—Gold coin to Belgium, 2848; ditto to Hamburg, 2054; ditto to Bremen 60—Silver bars to Hamburgh, 17,746.

THE LATE MR. THOMAS HOPKINS.—Mr. Hopkins, of the Penydarran Works, breathed his last on Tuesday morning, in the 30th year of his age, after a lingering illness of several months. He was a young man of considerable abilities, and much beloved by all who knew him.—*Merthyr Guardian.*

Abergwaur Stone-Quarry.—J. Rees was killed while hauling stones here.

TO BE LET (£25 per annum), an EXCELLENT FAMILY RESIDENCE, in good repair, at BOGNOR, SUSSEX, sea-coast, contiguous to the Brighton Railway, Goodwood, and Arundel, containing two spacious sitting-rooms, and five airy bed-rooms, two kitchens, and out-offices, hall, closet, &c., a large productive garden, apples, pears, grapes, gooseberries, currants, &c.; good water, highly situate, carriage sweep, front shrubbery, and gate enclosure. Immediate possession.—Apply to S. Hawkes, Esq., 3, Dorset-place, North Clapham-road, London, up to Eleven and after Six, near Kennington-toll; or at the premises, Spencer-terrace.

BY ROYAL LETTERS PATENT.

THE DIATONIC FLUTE is quite NEW in its CONSTRUCTION, and retains the old system of fingering.

Amateurs in the provinces have the opportunity of hearing this instrument played by Mr. Richardson, at Jullien's Concerts.—Description forwarded free, on application to the patentee. *MANUFACTORY, 135, FLEET-STREET.*

Published price 5s., "Theory of the Diatonic Flute," by A. Siccama, B.A., patentee.

THE MINING ALMANAC.—In the absence of the Parliamentary Returns, the publication of this work has been necessarily delayed; it will, however, appear in the course of a FEW DAYS—containing much original and statistical matter, occupying upwards of 400 pages.

25, Fleet-street, Feb. 22, 1849.

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 210, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"Engineer" (Pitfour).—A report of the meeting of the Runnaford Coombe Tin Mine has not been forwarded to us, or it would have been inserted. We are always anxious to publish authenticated reports of meetings, and solicit copies, from agents and others, for that purpose. Application must be made to a sharebroker respecting the purchase or sale of shares.

"H. Hughes" (Brighton).—The portable gas-light can be obtained through Messrs. Holliday and Co., Turnbridge-Works, Huddersfield.

"Argenteus" (Dublin).—Great quantities of silver have been, at different times, found in England. Mines of this metal were said to exist in Sutherland. In Sir Robert Gorden's *History of the Earls of Sutherland*, he thus mentions them:—"In Southerland there are silver mynes which have been hithertoo neglected. Their was ane essay of these mynes carried to London the yeir of God 1620 by the deceast Sir Thomas Menzies, and being tryed in England, they were verie rich. But he concealing in what part of Southerland the same was found, and dying upon the way at that tyme in return from London towards Skotland, the state is hithertoo depryved of the benefit of these mynes, until it shall please God in his appoynted tyme to discover the same."

"M. S." (Oxford).—The total quantity of goods exported from Great Britain during the year 1848, was of the value of 46,407,939*l.*, being 589,301*l.* above the corresponding return for the preceding year.

"An Enquirer" (London).—Since the year 1826 the importation of tutenag from China to Calcutta has entirely ceased. It is now superseded by spelter, from London.

"G. M." (Islington).—Large quantities of graphite are laying in different parts of the world, unworked or uncared for. There are mountains in the Lofodden Islands, from whence hundreds of vessels might be loaded, at a trifling expense. The consumption is so confined, and it can be so easily obtained, at such a trifling cost, that it is scarcely worth quarrying in any difficult spot.

HYDRO-CARBON GAS.—"Nebo" should address Mr. Stephen White, 9, Lincoln's Inn-fields. See also a notice on the subject in last week's Journal.

J. Browne (Regent-street).—The substance technically called "cawk," in Derbyshire, is the heavy spar, or sulphate of barytes of miseralogists.

"An Experimentalist" (Chichester).—The fusible metal invented by Sir Isaac Newton is composed of eight parts of bismuth, five of lead, three of tin; it liquifies at the heat of 212 Fahr.; the addition of one part of mercury renders it still more fusible.

H. Jones (Daventry).—The length of railroad made, or about to be made—that is to say, where Acts have been passed, or concessions granted—is, in the various countries, as follows:—United Kingdom of Great Britain and Ireland, 11,705 miles; America, 3800; Germany, 1570; Holland, 200; Belgium, 1095; France 2200; Italy, 115; Denmark, 106; Cuba, 800; Russia, 52; Sweden, 50; Norway, 44; Spain, 72; British colonies, 1000; East Indies, 500. During the session of 1848, the number of railways for which Acts were passed amounted to 85; the total length of the lines to 370 miles 60 chains; the length of deviation to 155 miles 68¾ chains; the gross amount of capital stock to 10,904,866*l.*, and the sum of money the companies were empowered to borrow, 4,869,771*l.* The 85 Acts were thus classified:—6 amalgamation and lease; 3 for the purchase of canals; 12 for extension of time, and sundry amendments of Acts; 17 for deviations, extensions, and other works, for which no new capital was required; 2 for new lines by new companies; 26 for branches, extensions, and deviations, by existing companies; 6 for stations; three for harbours, ferries, and docks; 2 for steam-boats; and 8 for additional capital, for works already authorized. The total increase of mileage occasioned by the above Acts was 533 miles 11 chains. The total increase of capital was, 14,620,471*l.*

"An Enquirer" (Hartlepool).—The present price of coals at Calcutta varies from 30s. to 35s. per ton.

"A Reader" (City).—Diamonds are principally obtained from the Brazils and Hindoostan; latterly many have been imported from Siam, the Burmese empire, and Borneo.

"M. A. P." (Chelmsford).—Your communication is much too lengthy for insertion in our columns. If the extraneous matter is left out, and the whole considerably curtailed, at the same time preserving the pith of the matter, we shall gladly give it a place. The arguments adduced we have no doubt are correct, we only object to their verbosity.

"Manufacturer" (Birmingham).—White copper was formerly much used in Germany, for the manufacture of stirrups, bits, and spurs, as well as several other articles. The principal establishment for its manufacture was at Suhl, in the small duchy of Saxe Hildburghausen. Its composition was—Copper, 88·00; nickel, 8·753; sulphur, with a little antimony, 0·750; silex, clay, and iron, 1·750.

B. Green (Worcester).—The great seat for the manufactory of cutlery in France is Chatellerhault, in the province of Poitou. All descriptions made there are, however, immensely inferior to our Sheffield wares.

"T. H." (Castleton).—The price of English pig-lead was rightly quoted by us in last week's Journal—from 16*l.* to 16*l.* 5s. per ton. A letter, enclosed in one to the Editor, will be handed to our authority.

"G. H." (Callington).—The ores of tellurium are four—viz.: native, in which they are combined with iron and a little gold; graphite, in which they consist of tellurium, gold, and silver; yellow, which is a compound of tellurium, gold, lead, and silver; black, containing the same metals, with sulphur and copper. Hitherto they have only been discovered in Transylvania and Siberia.

"A Student" (King's College).—There are several compositions of mosaic gold used by artists in varnished works. The following is the most generally known:—8 ozs. of tin and of mercury being amalgamated together, are put into a matrass, with 6 ozs. of sulphur, and 4 ozs. of muriate of ammonia. The bottom of the matrass being ignited, the sulphuret sublimes; and if the heat be such as to make the mixture take fire, it is sublimed of a dazzling colour, in large hexagonal scales. The tin, minutely divided by its amalgamation, is oxidised by the muriatic acid of the muriate of ammonia, and the hydrogen, disengaged from the water of crystallization of this salt, combining with sulphur and caloric, forms a sulphuretted hydrogen gas. Muriatic oxide of tin and mercury, united with sulphur, in the form of cinnabar, also rises. The remaining oxide of tin and sulphur forms the mosaic gold.

"Miner" (Redruth).—The powder used in the Spanish mines is obtained from the Government depôts. The manufactory of powder, as well as that of tobacco, and several others, being Government monopolies. Several of the mining companies have, on various occasions, petitioned the Government to be allowed to import their own powder, but it has been refused; one of the principal grounds being the fear of its being seized by the reactionary parties, who are perpetually raising revolutions in that distracted country.

H. Roquette (Paris).—There are no lead mines in Norway; small squats of galena have been discovered in the vicinity of Arendal, on the Western coast, but not in sufficient quantities to justify an exploration. The lead used in the silver works at Kongsberg, is imported from England.

"A Speculator" (Broad-street).—We never on any occasion recommend investments in any particular companies. The tendency of our remarks has been to recommend home in preference to foreign speculations.

"L. M. S." (Tavistock).—The Asturian mining code, though it differs in its details from both the Saxon and Hanoverian, yet, nevertheless, in its general principles, it agrees with them. The Government supervision in the Asturian is stricter, as regards all Crown dues and immunities granted by them to the miners.

"Tyro Chemicus" (Brompton).—Our correspondent may rely on it, Dr. Murray is right in his observations on the "Gold Alchemy," in our last week's columns. It is true, that the precious metal is found of a brown, reddish brown, yellowish red, bright and pale yellow colour, according to localities and circumstances; but these specimens are more or less contaminated with alloys of other metals, which give them their different shades, as copper, silver, platinum, iron, its oxides, &c. *Pure* gold is always of one uniform colour—a bright yellow. Gold has been found in so many substances, in vegetables, garden mould, several of the earths in nearly every country on the globe, and is the most extensively disseminated of all the metals next to iron, though frequently in such infinitessimal particles, that it is probable the experiments of "X." and "B. C. D." may have developed the gold already *invisibly present* in the substances employed; but to suppose it was *produced* by any mixture or galvanic process is ridiculous—gold must be present in the substance under examination, or it will never be obtained from it.

"Well Sinker" (Crouch-end).—There cannot be a doubt but that iron ladders for wells, or any description of shaft, are far superior to wood, and, if universally adopted, would be the means of preventing many dreadful accidents, which happen from breakage of ropes and rotting of wood ladders. They need not be made of bar-iron sufficiently rigid to stand upright; they should be made light, of about the dimensions mentioned by our correspondent, "H.," in last week's *Mining Journal*, and ought in all cases be *hung* to quartering, or other substantial bearers in the shaft or well, sufficiently away from the wall to leave hand room, each 10 ft. length, independent of the next, but the bottom prevented from swinging from its position over the one below it. We know an engineer, who is now making some of a similar construction for a deep well which supplies his premises.

THE ELECTRIC TELEGRAPH.—SIR: A few mistakes appeared in my letter published on the 17th inst., which you will oblige me by correcting. Par. 1, line 8, *for lightening*, read *lightning*; line 16, for *in his view*, read *in his own*. Par. 2, line 10, for *in which*, read *in what*. Par. 3, line 18, for *the brass balls*, read *two brass balls*. Par. 4, line 4, for *who even proposed*, read *whoever proposed*.—G. E. D.: *March 23.*

Wanted.—"A Mine Adventurer" (Fore-street)—"J. S." (Black Boy Colliery).

*** It is particularly requested that all communications may be addressed—

To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MARCH 31, 1849.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

We trust we shall not be charged with the least discourtesy by any of our respected correspondents, if we suggest to them, one and all, the propriety of very much lowering, and, if possible, of utterly blotting out, the golden reveries in which they have been recently luxuriating. We know that some great names and some high philosophical reputations, were once, in the comparative night of experimental science, associated with the popular project of procuring gold by some combinations, or some secret treatment of the more common and less precious metals. We see, in too many instances, that the reputed follies of our age are changed into the revived passions of another. Error and miscalculation is to-day, in a variety of cases, pasting up the same nest that they built and fell from centuries ago. The growth of natural philosophy, and the enlargement of experimental science since the days of the alchemist, has taught the world not a single lesson more certain or more settled than this—that what those laborious and persevering men attempted, they never could, by any possibility, accomplish. The whole class of metals—and gold, of course, among them—have been proved by a long series of chemical experiments, and of chemical reasoning in respect of them, to be simple, elementary, undecomposable bodies. But just now, upon no evidence whatever worthy of the name, some ingenious men will have it, that the monad is a dual, and that what has up to this time been a simple unity, is, in point of fact, a complex plurality. We cannot think that the experimentalists of several successive generations have been so inattentive, or so ignorant, as to have overlooked so great and interesting a truth. We fear, indeed, that the hens are, at this moment, sitting on pebbles, and that neither chickens nor gold will be the result of their incubation. And if it were otherwise, if gold could be manufactured at will, of what possible use could the discovery be?—of none whatever, but of incalculable mischief and misery; the man who made it would not be the benefactor, but the scourge of his species; for the hitherto settled relations of property would be so broken up, and the standard of value all over the world so disturbed, as would involve all commerce and all society in inextricable confusion. Of course, we point to such consequences in the most hypothetical sense only: there will be no discovery, no invention, equivalent to the production of such results.

After 20s. worth of labour and expense, it may be possible to produce a new compound metal, value 20s., having some of the sensible properties of gold; but still an essentially different thing, having none of its chemical, none of its electrical affinities, nor in any sense capable, by its atomic unity and its rarity, of taking the place of gold in the estimation of the world, or being a substitute for it, as a uniform and universal representative of value. We are exceedingly willing, as our columns everywhere show, to assist in the furtherance and publication of such works of art, and of public convenience, as have a fair proportion of merit and of novelty to recommend them; but we should abuse our position and our powers, as a branch of the public press, if we gave our support to theories which must be erroneous, if science is true, and which, if capable of actual demonstration, would rather tend to add to the confusion, than to consolidate the happiness and the order of society.

We have adverted, at different periods, in our columns, to the importance of a liberal treatment, on the part of the smelting interest, to both the home and the foreign miner; on the same occasions we have expressed our fears that, if a different course than that at present pursued was not adopted, we should incur the risk of losing a portion of the copper trade, and throw this important branch of national industry into the hands of foreigners. Though this apparently, in the first place, would appear only to affect the smelters, there is no doubt the blow would rebound with double force on our already much depressed mining interest.

The importance, and the absolute necessity, of having a sufficient supply of rich foreign ores, to flux the poorer produce of our own mines, is a truism which no one, in any way conversant with the question, will deny. Although, at the present period, there does not seem any great probability of a falling off in the supply of these ores, we cannot shut our eyes to the fact that, within the last 12 months, a competition has sprung up which is likely to have a most material influence on their future destination. The Australian mines, which promised to afford so plentiful a supply of ores, from the accounts which we have received, are likely soon to cease their shipments, or they will be so trivial that they will form but a small item in the Swansea sales. Already cake copper has been produced in the colony, and samples have been sent, both to this country and India, in order to see whether it will suit either of these markets. It is calculated that one smelting establishment will be able to smelt 10,000 tons of ore in the present, and double that quantity in the next year. Several others are about to come into operation, and the colonists anticipate, the succeeding year, that works will be established sufficient to smelt all the mineral produce of the colony. The importation of Australian ores, however large as it has been, is but of recent date; and, as it has always been anticipated, in proportion as the mineral resources of the colony were developed, improvements and economization of capital would take place by the reduction of the ores on the spot, their exportation to England may have been considered a matter of necessity, and their influx can but be regarded as an ephemera, which would last but a short period.

The production of Australian copper we do not suppose will cause any material difference in the European markets; but we fear, from the lowness of the freight, and their contiguous proximity to India, they will become formidable rivals, and eventually will probably supersede us there. In addition to these, smelting-works have been established in North America, which draw large supplies from Chili, and the other countries of South America, which formerly came here. The Elbe Copper Works, at Hamburg, have, for above a year, successfully carried on smelting operations—indeed, so fortunate have been their efforts, that the Prussian Government works at Berlin have declared their copper to be fully equal to Russian copper of the first marks, and immeasurably superior to the English cake copper, which it has entirely superseded there. Their copper has, likewise, been sold to the Marine Department of France, and pronounced by them to be of first-rate quality. So favourable has been the general result of their operations, that they cannot execute the orders they have received—the only difficulty being a deficiency in the supply of ores. Agents from them have been in England, eager to negociate with the foreign companies here for a supply; and purchases of ores have been made by them at more favourable rates than those given by our smelters. They have hitherto confined themselves to the reduction of South American ores; but they have now expressed themselves willing to purchase other ores, either delivered at Hamburg or London. So soon as they see the probability of a sufficient supply of ores, their intention, it is stated, is further to enlarge their works. The principles they appear to have proceeded upon, are small profits and quick returns. They have almost monopolised the German market; and this they have been enabled to do, though all their materials and fuel have been purchased in England. We make no comments; but let the facts speak for themselves. The conclusion we deduce from this is, that, unless some change takes place in our smelting departments in all their branches, we shall have other and more formidable rivals as near our own shores, emulating the example so successfully carried out by the Hamburg Copper Company.

TREATIES OF COMMERCE AND PATENT LAWS.

Although we, in our last Number, gave insertion to Mr. Campin's letter, his remarks have not in the least degree altered the opinion originally expressed by us on the subject—viz., that "we have long entertained a desire to see our patent laws put upon a more clear, liberal, and equitable basis than they now are."* And no cases, however antiquated, can induce us to refrain from adding our efforts to those now being made, for the amendment of a law which presses harshly and unjustly on the interests of our ingenious fellow-men, whether such be our fellow-countrymen, or foreigners, for "genius," it has been well said, "is of no particular country or clime, and the emanation thereof should be reciprocally protected." The whole tenor of our article shows, that our object was to point out the audaciously *illegal* attempts which had been made to nullify the provisions of an important commercial treaty, by presuming to prohibit the importation from America of goods, the admission of which into this country, *and vending thereof*, are guarranteed by the conditions of the said convention, and by threatening to levy on such goods, *a tax unauthorised by the Legislature*, and thereby to fetter the commercial operations of our merchants and traders, and such acts, we now advisedly repeat, have ever been considered offences of the greatest magnitude by the law of England.

As regards the "points" of the defendant's cases (numbering about 50) we know nothing, nor did we say one word respecting them, which would have been improper upon any matter, *sub judice*; but we have no doubt that the points will be duly examined by the learned gentlemen to whose able hands the defence was confided, whilst we sincerely believe that "a good time is coming" at home, as well as abroad, for *true and first inventors*, as really intended by the statute of the 21st Jac. I., however prejudicial the event may prove to grasping monopolists, or unscrupulous patentees, and that notwithstanding the antiquated and obsolete cases of Darcy *v.* Allen and Edgebury *v.* Stephens.

Our attention has been directed to an article in the *Times* of Wednesday last, headed "American Pontons for India;" and we are informed that the agent of the American manufacturer, referred to in our previous article on this subject, was the party who first introduced these pontons to our own Government—that he supplied two of them by order of the Master-General of the Ordnance—and that these are now with Sir Harry Smith, at the Cape, where they have fully answered all the purposes of a ponton equipage, and are found greatly to excel all other bridges for the conveyance of troops and artillery across rivers. These pontons are made of the material; the samples of which were exhibited, as stated by us in our former Number, and, therefore, our own Government will, we presume, have to call upon the Attorney-General to defend the importation of these pontons, in conjunction with those importers who have been selling articles of the same manufacture; the result of which, without stating our own opinions, we patiently await.

CANAL ACROSS THE ISTHMUS OF PANAMA.

A suggestion for the successfully establishing a communication between the Atlantic and Pacific Oceans across the isthmus has been proposed by Mr. Bowden, of Wardrobe-place, Doctor's-commons, who, from his knowledge of the country, appears well able to give a correct notion of the difficulties to be overcome, and the advantages to be gained from any particular route. As to geographical position, he unhesitatingly decides in favour of Panama, where the distance across is under 40 miles—the mountains in its centre of less elevation than in any of the other three proposed routes—and that, by following the course of the valleys, a canal, which he thinks far superior to a railroad, might be constructed in 50 miles. He considers that capital embarked in a national undertaking in any of the Spanish republics would not be safe, unless the parties advancing the means held the sovereignty of the territory through which the canal, or railway, should pass; and in case of war a passage could be much better kept open by this route than by either Nicaragua or Tehuantepec. The commercial advantages would be enormous; we should be in a position to command the trade of Peru, Chili, Central America, Mexico, California, Oregon, and the numerous islands of the Pacific. We could compete with the Americans in the whale fishery, and open out a new route to China, Australia, and New Zealand. No calculation can truly estimate the advantage to our trade and shipping should such route ever be established; and, in the event of war, the possession of a passage for large ships and steamers would be of great importance.

The roads in Central America are of the most primitive kind—a mule track on a mountain ridge, or through what in a wet season is the bed of a torrent, a path through a forest, or over a sandy desert, is all that can be found; and such great works as national roads, canals, or railways, are rarely successfully accomplished in countries always involved in anarchy and revolution—these are the works of civilisation and peace. Mr. Bowden, therefore, suggests that the safest way would be to purchase, if practicable, from the Government of New Granada a belt of land, 30 miles wide, over the isthmus—not only the fee simple, but the sovereignty, and for which they might probably be induced to take 500,000*l.* for this concession. He calculates the cost of a canal, capable of admitting ships of the largest burden, with one large lock at each end, at 50,000*l.* per mile, or 2,500,000*l.*—making an outlay of 3,000,000*l.* The lands on both sides would be valuable for the growth of all kinds of tropical productions, and would soon become settled upon; for although the climate is at present by no means healthy, the malaria proceeds from the swamps and bush, and it is invariably found that clearing, burning, and draining, for the introduction of cultivation and population, improve the climate and render it healthy. As a return for capital invested, he calculates the tonnage at 500,000 tons per annum, which, at 1*l.* per ton for the 50 miles of canal, gives 500,000*l.* per annum, or 16⅔ per cent. profit, from which there is to deduct wear and tear, attendance, repairs, direction, &c.; but we think it probable these might be covered by the rents of country seats in the mountains for the merchants, and of lands let for sugar, coffee, and provision plantations. The suggestion is a good one, and well worthy the attention of the merchant, shipowner, and capitalist; while this desirable measure would probably be greatly advanced by an application to the Government.

COPPER-SMELTING IN SOUTH AUSTRALIA.—We have to record a pleasing instance of what can be done by individual efforts; or, rather, by the conjoint exertions of a united family, in this colony. It is not yet 12 months since Mr. Mauris Thomas, accompanied by two brothers and two sons, reached South Australia in the ship *Success*. After spending six weeks in town, they settled in the Mount Barker district, and there erected, with their own hands, in the vicinity of the Kanmantoo Mines, a smelting furnace for copper ores. The undertaking has been eminently successful, and this day the first 3 tons of merchantable copper have arrived in Adelaide, smelted by themselves, with the wood of the native forest as their only fuel. Mr. Thomas has since concluded an arrangement with the manager of the South Australian Company for the smelting of such of their ores as are not sufficiently rich for shipment to England direct, and thus a new stimulus has been given to mining industry, by demonstrating that metallic ores of small yield may be rendered conducive to the general wealth.—*Adelaide Observer.*

THE GOLD DIGGINGS AND HER MAJESTY'S SHIP "PANDORA."—The report which has appeared in the papers relative to the freight of 900,000*l.* sterling in gold dust, which it was said the *Pandora* was bringing home, is quite imaginary. She had taken a *small* quantity from California to Panama.—*U. S. Gaz.*

A grand demonstration took place at Tredegar Iron Works, on Thursday last, on the occasion of the opening of a new rolling mill. After the ceremony of opening the mill had been performed, the company proceeded to a public dinner at the Town-hall, where 260 guests sat down to partake of the good fare. Amongst the company we observe the names of G. Overton, Esq., of Merthyr, and B. Martyn, Esq., of Penydarren.—The *Monmouth Beacon*, which reports the meeting, says:—The engine is of 200 horse power; there are six engine-boilers; the fly-wheel weighs 45 tons, and the driving wheel 25 tons; it drives the four mills, which are capable of working upwards of 1000 tons of iron per week. The poor were not forgotten: 15 beasts were slaughtered, and 10,000 lbs. of meat, 9600 lbs. of bread, and 1200 quarts of beer were disposed of.

* See *Mining Journal*, March 17 last. A short time since an important petition was presented to the House of Commons, by Mr. Muntz, from Birmingham, for a revision of the Patent Laws. Others, we understand, will shortly follow, and doubtless, ere long, the whole subject will be fully considered by the Legislature.

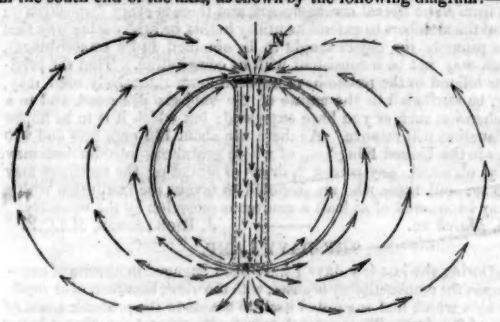
TERRESTRIAL MAGNETISM;

AND ITS EFFECTS ON THE SEMI-FLUID SURFACE OF THE EARTH.

Not many years ago "magnetism" was simply considered as that peculiar species of attraction exhibited by the magnetic needles; but now we find that it is a property inherent in *all* matter—the active principle of the mineral kingdom—and it has a most important influence in the general economy of Nature. Indeed, when we duly reflect that our globe is constantly enveloped by this universal subtle power, its presence being long known in every part of the civilised world, it is somewhat surprising that philosophers should have so long neglected this grand primary force, and that they should have assumed other forces, which are not only unknown, but are incapable of giving a satisfactory solution of the multifarious operations daily observed, which are now accounted for by the simple universal law of magnetism. The relations between chemistry and electro-magnetism, between animal and vegetable physiology, are becoming daily more apparent; geology, while explaining the structure and the entombed organic remains of our planet, finds itself dependent on this great natural agent, working in obedience to a fixed law. Hitherto geological science has been designated as a vague and useless doctrine by many of our practical miners; and it is true that primary rocks, with their mineral veins, have been left by speculative geologists, as *terra incognita*, in complete obscurity; but we are happy to observe a change for the better; the science is beginning now to have a more useful and practical bearing, and men are getting more anxious to learn it; and it is to be hoped that with this combined influence, and the diligent accumulations of new facts, such a degree of certainty will be attained, as may enable them to predicate with some confidence, not only questions connected with mineral deposits, but likewise all phenomena which it comprehends.

We have been led to make these observations on this interesting subject, in consequence of repeated applications from our correspondents, requesting us to give a short sketch of Mr. E. Hopkins's new system of geology, which, in consequence of its practical application to mining, and the satisfactory manner in which it accounts for all phenomena connected with terrestrial physics, is becoming all but an established system with practical men. The interest has been considerably enhanced of late, owing to the recent discoveries made by the indefatigable Dr. Faraday, corroborating, in a remarkable degree, Mr. Hopkins's general views, as explained in his work.*

Polarity of Rocks.—It is known, from time immemorial, that the rock called *loadstone*, when freely suspended, points north and south, but according to Mr. Hopkins, this is also its natural position *in situ*. It matters not whether the rock be a foot or a mile in length, the effect would be the same; and as all our primary rocks are more or less magnetic, it follows that, were it possible to lift the crystalline film of any given area, and make it to float, and left undisturbed, it would eventually occupy (like the loadstone) precisely the same position, end for end, as it did before it was removed; its polar grain would return to its natural meridional bearing, the same as the loadstone or magnetic needle. The primary rocks forming the mountains of Regelberg, in Germany, as well as the Andes, and other great ridges, have been known to attract the north end of the needle in the south, and the south end of the needle in the northern extremity, with so tremendous a power, vitalising, so to speak, every inch of the stony substance of the globe, we are enabled to account for eruptions, upheavals, and other disturbances by which it is visited. Granting this reasonable conclusion, that the globe is a large magnet, exerting the same influence on matter as we find on experimenting with artificial magnets, there must be decomposition and recomposition constantly taking place whilst the currents are in circulation, entering in at the north, and emerging again from the south end of the axis, as shown by the following diagram:—



Whatever substances may be decomposed and converted into gases, are again returned into the earth—nothing can be destroyed; whatever we may consume or reduce become again, by means of this circulating polar force, what they were before they existed in the form of vegetable, stone, or water—active agents in the business of the world, and main supports of vegetable and animal life, and are still susceptible of running again and again the same round, as circumstances may determine. The intensity of the action of the currents must necessarily be as their density. The poles are compressed or flattened by the concentrated power of the diverging and converging currents, and the attractive force varies inversely, as the square or cube increases. Mr. Hopkins considers that the narrowest limits that we can assign to the polar axis are the areas bounded by the Arctic and Antarctic circles.

After some excellent and lucid observations on the identity of magnetic and galvanic currents, and the filling of mineral veins by its influence, by reducing the metallic solution in a similar manner as effected by chemical art, the effects of the poles of the globe on all substances within the limits of their actions, metallic deposits, polarity of earthquakes, &c., he proceeds to prove the northward and undulating movement of the earth's surface, *en masse*, by the constant circulating action of magnetic currents. Mr. Hopkins not only establishes that the dry land does not possess that fixity of position, nor is it that solid and immoveable mass as formerly supposed, but that the surface is a flexible crystalline compound, floating on some more dense fluid, and subject to perpetual movements; that the land, as well as the ocean currents, is continually advancing with an undulatory movement *towards the north*, and that the magnetic tension causes those splits and fissures in the crystalline rocks, which, becoming filled with the deposits of metallic solutions, are called mineral lodes or veins. Among the facts referred to in proof of this northern movement of the earth's surface, he notices the fact that all the recent surveys and astronomical observations made in South America, show a northerly increase in latitude. That what has long been called the precession of the equinoxes arises from the same northern advance of the land which at present is also just 19 seconds per annum; and this change, in the lapse of a moderate number of years, destroys the arrangement of the catalogue of the stars, and makes it necessary to reconstruct them.

Since the formation of the earliest on record, the place of the equinox has retrograded 30°. Even Plato noticed this peculiar and gradual change, and said that the heavens and the stars appeared to change by time; the Egyptian priests also acquainted Herodotus that, from the commencement of the dynasty of their kings (11,000 years), the sun had apparently changed his course in the heavens four times. He also instances the changes of temperature in northern climes as evidence of this movement. Within the limits of historic records, there is abundant proof of the climate of Europe getting colder; and that the inhabitants of the north are continually setting southward. The first settlers in Iceland found extensive districts of that now dreary country covered with extensive forests of birch and fir; barley and other grain was also cultivated, while the whole island is now a dreary desert. On the discovery, and what is called the settlement of Iceland, relics were found which showed it had been previously inhabited. There was a country called Vinland, within a few days' sail of Greenland, watered by rivers yielding fine salmon; on the banks of which were trees loaded with delicious fruits; the temperature mild, and the soil fertile. Among the fruits were grapes, from which arose the title "the land of wine." This Vinland was, doubtless, Newfoundland. Wine was formerly made from grapes which grew in the open fields of England and the north of France; and there are ample proofs of a similiar reduction of mean temperature in other parts of the continents of Europe and America.

It is in the *northern* regions we find the relics of man and his works, and probably the greater part have disappeared, from the rapid destruction and oxidation of the land at the North Pole. All geological researches prove that in the northern latitudes we find the animal spoils of the southern countries, and the marine exuvie of the southern seas; but in the southern seas we find no remains of animals, vegetables, or shells, belonging to the northern, but those only of the neighbouring seas; nor are there the consolidated series of sedimentary rocks in the southern hemisphere. Among the animal remains strewed over Europe, are those of the elephant, rhinoceros, hippopotamos, hyæna, bear, lion, tiger, crocodile, and others, now only found in tropical climes. The remains of vegetation are also abundant and similar; the cycadeæ and pines are of the nature of species now found only in the southern hemisphere. Of the four recent species of araucaria at present known, one is indigenous to the coast of New Holland, another in Norfolk Island, a third in Brazil, and the fourth in Chili; extensive remains of similar vegetation are found in all the coal measures of the north. Indeed, in the last volume published by the Government geologists, under the superintendence of Sir H. De la Beche, we find the description of the flora of the coal fields so exactly corresponding to that of the existing flora of the southern hemisphere, that the analogy is complete. The coal formation is, consequently, denominated by Mr. Hopkins the *deposit of the south temperate region*—*i. e.*, that our coal beds were formed in that zone, and gradually brought, with other deposits, towards the north.

In the coal-beds of Melville Island, fossil plants are found, which required south tropical heat and moisture for their growth, and could not possibly have flourished through the cold and six months' night of the arctic regions. An island, or continent, moving from the south, would naturally carry its sponges, ferns, corals, and animals, to the north, modified by the changes of temperature through which it passed: and the immense deltas of floating wood in process of formation at the embouchment of the La Plata, Amazon, and other rivers, in the southern zone, to be alternately elevated and submerged during their ages of transit, would seem to be the means of providing an endless succession of coal-beds for the inhabitants of the chilly north.

[*To be continued in next week's Mining Journal.*]

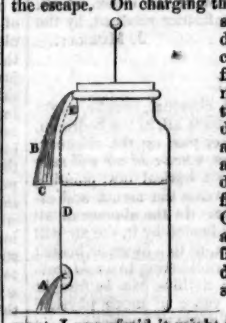
* "On the Connection of Geology with Terrestrial Magnetism: showing the General Polarity of Matter, the Meridional Structure of the Crystalline Rocks, their Transitions, Movements, and Dislocations," &c.

ON PYROGEN.*—No. I.

BY JOHN JOSEPH LAKE, ROYAL LABORATORY, GOSPORT.

[The author has placed communications on the above subject before the public at intervals during several years; but they are scattered amongst various publications, some of which are now difficult of access. Considering, therefore, that it might prove acceptable to gather the substance of them in a collected form, he proposes to do so in this series of papers, with revisions and additions, which he originally intended to have published in a separate form.]

Having a small Leyden jar, with a little star-like crack near the bottom, that prevented it retaining a charge beyond a very limited time, I cleared away a piece of the outer coating, of about the size of a shilling, to check the escape. On charging the jar, the fluid poured out of the crack like a stream of water, and passing the outer coating, descended to the table, as shown at A. On continuing the working of the machine, it next flowed over at the top, B, descending like a luminous stream, until it arrived on a level with the outer coating of the jar, when it was suddenly cut off, as at C. The appearance at A and B are only perceptible in the dark. That at B extended all round the lip of the jar. On discontinuing the working of the machine, the fluid ceased to flow, first at B, and then at A. On renewing the operation, it reappeared first at the crack, A, then at the lip, B. When the far discharges itself spontaneously, it always does so on the line, E, C, as straight as the shoulder of the jar will allow, and never at A.



When I published an account of this experiment, I was afraid it might fail in the hands of others; but some who have opposed the inferences drawn from it, state that they have repeated it, and any one having a Leyden jar, similarly circumstanced, may do the same.

From this experiment it may be seen that the electric fluid possesses the property of gravitation, independent of its well known ones of attraction and repulsion. This appears from the curvilinear form of the streams, A, B; for, were ordinary electrical attraction and repulsion acting alone, the streams would proceed direct to the outer coating; as, when the jar discharges itself at E, C, and not assume the appearance of being projected like water. It is evident, notwithstanding that attraction and repulsion are at work in the experiment by the different terminations of the streams, A, B; for, as soon as B arrives on a level with the outer coating at C, it disappears. The cause of this seems to be, that the large surface of tinfoil presented to the stream at D, and that, too, in a negative state, overcomes the power of gravitation; but at A the latter force prevails, the small surface of the metal below not being sufficient to overcome it. From this it may be seen that the fluid gravitates to the earth, when there is nothing presented to it by which it can exercise its attractive or repulsive properties in preference. The existence of the electric matter may also be inferred from the peculiar effects observed at A, where the luminous stream does not approach the outer coating, as, according to the received laws of the attraction of the positive for the negative fluid, it ought. Instead of doing so, it passes by it, and, as already observed, when the jar discharges itself the charge issues by the lip to the outer coating, notwithstanding the distance between the coatings is very much greater by way of the lip than at A—a thing contrary to ordinary experience, that the fluid to recover its equilibrium should take a longer and more circuitous route, with a greater amount of insulation to overcome, when a shorter one, attended with less difficulty, presents itself, which, on the immaterial theory is the case; for the small orifice ought not to be an impediment, since what is immaterial cannot require space to move in. Why, then, does not the jar discharge itself at A? Because the fracture is sufficiently small to impede its progress, and it can only ooze out by degrees, which alone proves the existence of matter, part of which can be held back, like water in a cistern, whilst part is issuing through an opening too small to admit of the whole escaping at once.

The *Medical Gazette* is of opinion, that the fluid appearing first at A, and then at B, and again disappearing, first at B, and then at A, on stopping the working of the electrical machine, proves the existence of matter, in which I agree. The experiment, however, affords the other plainer evidence of the fact given above. It has been objected to this experiment that the appearances observed are only the result of the struggles of the two theoretic fluids seeking each other to restore the electric equilibrium. But, if so, how different the appearances are from what, according to known electric laws, they ought to be. For, to restore the equilibrium, the fluids should meet each other by the shortest and easiest way; but, instead of doing so, and the jar discharging itself spontaneously at A (the shortest and best path, since it offers the least insulation), it prefers B; so that the advocates of two fluids are placed by this experiment in a dilemma, and must either admit that the fluid is material, and cannot pass through the crack *en masse*, or deny the existence of a negative fluid.

I have also published another experiment, proving the existence of pyrogen. It has been noticed recently in the *Mining Journal*; but I do not think there will be any objection to its being referred to here more in detail. It is a well known fact, that water will cause two substances with even surfaces (paper and glass, for instance) to cling together, not from any change it produces in these bodies, but solely from the tenacity with which its own particles adhere together; and this attraction, or adhesion, can only be produced when some foreign body of sufficient density is introduced between them. Now, let two pieces of clean common window-glass be taken, the one a good size, and the other not exceeding half-an-inch in any direction; and let the larger piece be charged with the electric fluid. Then lay the smaller piece lightly on the charged side of the larger, keeping it steady with the finger until they are inverted, so as to bring the small piece underneath. On removing the finger, they will be found to adhere slightly together. Again, on changing and inverting as before, but moving the smaller piece gently over the charged side of the larger one, before removing the finger, the adhesion will be found to have increased to an extraordinary extent. The latter method of conducting the experiment shows more clearly the existence of matter, and, at the same time, is not open to an objection that might be urged against the first—namely: that the attraction only continues until the larger piece has communicated its quota of pyrogen to the smaller one; for, if this were the case, the passing of one piece over the other should most materially expedite the result; whereas, instead of doing so, it produces more powerful attraction. Atmospheric air will not keep the two pieces of glass together, not being of sufficient density. We may, therefore, conclude that pyrogen is more dense than air, and that by the second way of conducting the last experiment, it is pressed, or worked, into the inequalities of the glass, and the air expelled in much the same way as it would be if there were any between when water is employed.

* From πυρ, *fire*, and γενναω, *I give rise to*.

Original Correspondence.

BOVEY LIGNITE—EXPERIMENTS.

SIR,—In returning to the subject of Bovey lignite, with a view of giving some information on the nature of the ash and the gaseous products, it may not be without interest to include the result of some recent experiments on a portion of the lignite containing 17 per cent. of ash, and, therefore, to be regarded as nearly an average specimen of the whole strata; to be assured of this, however, as stated in a former paper, would require a great number of analyses of portions taken from every part of the coal-field, which is composed of some 19 beds, varying from a foot and a half to many feet in thickness. The analysis of a purer specimen of lignite is also added, from an interesting paper on coal by Mr. Vaux, in the *Quarterly Journal of the Chemical Society*, No. III., which, whilst it serves to corroborate my own experiments, proves also the very variable proportions of the products from different parts of the bed, or seams of coal, and the impossibility of determining what the constant results would be on the large scale; these remarks refer more particularly to the gaseous and tarry products, the amount of solid residue, or coke, is capable of more accurate determination; but from my own experience, as before mentioned, the coking of lignite is decidedly impracticable, from the peculiar laminated structure of its substance, which renders it liable to crack and split up into thin layers, when dried at any degree of heat, or even at ordinary temperatures, *in vacuo*, over oil of vitriol. If thrown also into a retort, or crucible, in its moist state, and raised at once to redness, the same result takes place—hence the expectation of ever obtaining it coked in masses appears to me to be utterly hopeless.

DARK-COLOURED DULL-LOOKING LIGNITE.

	1st Experiment.	2d Experiment.	Vaux.
Water	22·10	22·10	34·660
Tar	20·86	20.82	—
Gaseous matter	13·46	11·26	34·631
Coke	23·22	25·46	30·709
Ash	17·42	17·42	1·479
Sulphur	2·94	2·94	1·544
Nitrogen	—	—	0·369
	100·00	100·00	103·392

The water and sulphur were both again determined for this experiment, and, on comparing the latter with the amount obtained in purer specimens, it might appear to increase in proportion to the deterioration of the lignite. The ash of lignite varies much in colour, from almost perfect whiteness to dark cinnamon brown, depending on the quantity of oxide of iron present; its chief constituents, however, as the annexed analysis by Mr. Wild, one of the laboratory students, will show, are silica and alumina, the principal elements in felspar or granite; and by calculating the equivalent proportions of these substances in the ash, from the quantities found by direct experiment, alumina and iron being taken as base, we get very nearly $Al^2 O^3$, 3 $Si. O^3$. Now the formula for felspar is $Al^2 O^3$, 3 $Si. O^3$ + $K O Si. O^3$; from which we may conclude that the ash in the lignite is nothing more than felspar, deprived by the action of air and moisture of its alkaline silicate; or, in other words, clay deposited with, and at length forced into, the very structure of those mighty trees and shrubs of a former age, which now, in their blackened and altered condition, constitute this remarkable deposit:—Silica, 53·28; iron, sesqui-oxide, 7·00; alumina, 38·00; lime, 1·32 = 99·60. Does not this large amount of clayey deposit afford us some insight into the formation and peculiarity of the Bovey coal-field, as distinguished from ordinary deposits of this nature? May we not conclude that it is more exclusively an inland formation, the deposit, perhaps, of some vast lake fed by streams, the bearers at once of the fallen oak and pine, and the decomposed rock, on the soil of which they grew? The gaseous products, collected over mercury and roughly examined, appeared to consist of about 73·5 per cent. of hydrogen, light carburetted hydrogen, and carbonic oxide, and 26·5 of carbonic acid and sulphuretted hydrogen, absorbed by caustic potassa. The specific gravity, approximatively calculated from the weight by loss, and the volume corrected for temperature and pressure, was ·729; that of coal gas varying from ·65 to ·5, or even lower. But this high specific gravity does not arise from olefiant gas, the valuable constituent of coal gas, the density of which is ·981, but from the carbonic acid so largely present; for, when burned, the flame scarcely differs from that of light carburetted hydrogen—a gas superior only in its illuminating power to hydrogen, which latter may be placed at zero.

It is a matter of regret to the chemist when, as in this case, his researches tend only to negative results—to close, instead of to open or enlarge, a field for the profitable investment of capital and honest enterprise; nevertheless, those results are valuable, inasmuch as they prevent the expenditure of wealth uselessly, and warn from loss, though they do not direct the way to fortune.—F. RUDALL: *Laboratory, University College, March* 23.

TELEGRAPHIC COMMUNICATION BETWEEN ENGLAND AND FRANCE.

SIR,—Allow me, through the medium of your valuable Journal, to draw attention to a theory upon which a telegraphic communication may be made between England and France without wires; and as this mode of telegraphing seems to be the ultimatum of all wishes upon the subject, I do not hesitate to lay before your readers for investigation, experiment, or actual use, this, my view of the subject. I take for certain (as experiments I have made have shown me), that when the positive and negative poles of a battery are dipped into, or connected with, any conductory medium, the electricity of the part round the positive pole is positive, being diffused in radial lines; and the part round the negative pole is negative in radial lines converging towards it, supplying the electricity requisite for the decomposition of the substances composing part of the battery. This understood, it is evident that, when a positive radial line sets out from the junction of the battery with the earth, it makes way to, or is attracted by, the nearest negative portion of earth, at last meeting the negative pole of the battery, and restores the equilibrium. From this, it seems that the first portion of electricity will pass in a straight line, being the shortest between the two poles; the rays will then form curves between the poles until, by reason of increasing distance, they are no longer influenced by one another, without a better medium of conduction being interposed in their circuit. It is natural to suppose that all parts of the earth are not of one uniform electrical density; if so, then some parts are positive, and others negative; then from this it is easy to see that some of the electricity, flowing from the positive pole, is the means of restoring equilibrium to negative portions of the earth, not necessarily rendered so by the negative pole of the battery, and also positive portions for the same reason rendered neutral, or negative, that do not owe their state of electricty to the positive pole of the battery.*

These rays of electricity may be collected in a certain quantity between the point whence they start, and where they are rendered neutral. By the interposition of a metallic medium, that shall offer less resitance than the water, or the earth—obviously the nearer the battery the greater the chance of collecting them. I do not anticipate the distance of 20 miles is at all too much (with the means we can use to compensate it) to collect a sufficient quantity of electricity to be useful for telegraphic purposes. Still the quantity would be small, and, with the present telegraph instrument, its presence would not be detected at all. The current in the wire must be detected not by its amount, but the fact that it exists in any quantity, however small. If, then, electricity can be collected in France simultaneously with a discharge from a battery in England, all that is required to know is what to do with it, so that it shall indicate its presence. I will now lay before you the arrangement I propose for carrying out this design.

1. Upon one shore I purpose to have a battery that shall discharge its electricity into the earth, or sea, having a distance between its poles of 5, 10, or perhaps 20 miles, as the case may be.

2. Let a similar length of wire be erected on the opposite coast as to near and parallel with it as possible, having its ends dipping into the sea, or earth.

3. Within the above circuit of wire have an instrument, consisting of about 10, 20, or more square or round coils of finest wire of best conductability, suspended on points or otherwise—being part of the circuit wire "No. 2." Suspend this coil before or between the poles of an electro or permanent magnet, or magnets, and in either case any current passing

* The present electric telegraph is effected by what is termed "aurorus," or a current o electricity passing along the wires of the telegraph—of course, entering and passing through the coil used—thereby deflecting the needle. While inspector of telegraphs on the lines between Rugby and Newcastle, I have known that for hours the telegraphs, on particular sections of the road, have been useless from this deflection—often moving the needle from the perpendicular to either side and back again in a few minutes—giving evidence, therefore, of different currents flowing in the same direction, or the same current in different directions. As the telegraph wires are terminated at each end with a plate in the earth, these wires are then portions of the earth; and currents flowing from place to place pass along them.

TO BE LET (£25 per annum), an EXCELLENT FAMILY RESIDENCE, in good repair, at BOGNOR, SUSSEX, sea-coast, contiguous to the Brighton Railway, Goodwood, and Arundel, containing two spacious sitting-rooms, and five airy bed-rooms, two kitchens, and out-offices, hall, closet, &c., a large productive garden, apples, pears, grapes, gooseberries, currants, &c.; good water, highly situate, carriage sweep, front shrubbery, and gate enclosure. Immediate possession.—Apply to S. Hawkes, Esq., 5, Dorset-place, North Clapham-road, London, up to Eleven and after Six, near Kennington-toll; or at the premises, Spencer-terrace.

BY ROYAL LETTERS PATENT.

THE DIATONIC FLUTE is quite NEW in its CONSTRUCTION, and retains the old system of fingering.

Amateurs in the provinces have the opportunity of hearing this instrument played by Mr. Richardson, at Jullien's Concerts.—Description forwarded free, on application to the patentee. *MANUFACTORY, 135, FLEET-STREET.*

Published price 5s., "Theory of the Diatonic Flute," by A. Siccama, B.A., patentee.

THE MINING ALMANAC.—In the absence of the Parliamentary Returns, the publication of this work has been necessarily delayed; it will, however, appear in the course of a FEW DAYS—containing much original and statistical matter, occupying upwards of 400 pages.

25, Fleet-street, Feb. 22, 1849.

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 210, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

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Application personally, or by letter to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"Engineer" (Pitfour).—A report of the meeting of the Runnaford Coombe Tin Mine has not been forwarded to us, or it would have been inserted. We are always anxious to publish authenticated reports of meetings, and solicit copies, from agents and others, for that purpose. Application must be made to a sharebroker respecting the purchase or sale of shares.

"H. Hughes" (Brighton).—The portable gas-light can be obtained through Messrs. Holliday and Co., Turnbridge-Works, Huddersfield.

"Argenteus" (Dublin).—Great quantities of silver have been, at different times, found in England. Mines of this metal were said to exist in Sutherland. In Sir Robert Gorden's *History of the Earls of Sutherland*, he thus mentions them:—"In Southerland there are silver mynes which have been hithertoo neglected. Their was ane essay of these mynes carried to London the yeir of God 1620 by the deceast Sir Thomas Menzies, and being tryed in England, they were verie rich. But he concealing in what part of Southerland the same was found, and dying upon the way at that tyme in return from London towards Skotland, the state is hithertoo depryved of the benefit of these mynes, until it shall please God in his appoynted tyme to discover the same."

"M. S." (Oxford).—The total quantity of goods exported from Great Britain during the year 1848, was of the value of 46,407,939*l.*, being 589,301*l.* above the corresponding return for the preceeding year.

"An Enquirer" (London).—Since the year 1826 the importation of tutenag from China to Calcutta has entirely ceased. It is now superseded by spelter, from London.

"G. M." (Islington).—Large quantities of graphite are laying in different parts of the world, unworked or uncared for. There are mountains in the Lofodden Islands, from whence hundreds of vessels might be loaded, at a trifling expense. The consumption is so confined, and it can be so easily obtained, at such a trifling cost, that it is scarcely worth quarrying in any difficult spot.

HYDRO-CARBON GAS.—"Nebo" should address Mr. Stephen White, 9, Lincoln's Inn-fields. See also a notice on the subject in last week's Journal.

J. Browne (Regent-street).—The substance technically called "cawk," in Derbyshire, is the heavy spar, or sulphate of barytes of mineralogists.

"An Experimentalist" (Chichester).—The fusible metal invented by Sir Isaac Newton is composed of eight parts of bismuth, five of lead, three of tin; it liquifies at the heat of 212 Fahr.; the addition of one part of mercury renders it still more fusible.

H. Jones (Daventry).—The length of railroad made, or about to be made—that is to say, where Acts have been passed, or concessions granted—is, in the various countries, as follows:—United Kingdom of Great Britain and Ireland, 11,705 miles; America, 3800; Germany, 1570; Holland, 200; Belgium, 1095; France 2200; Italy, 115; Denmark, 106; Cuba, 800; Russia, 52; Sweden, 50; Norway, 44; Spain, 72; British colonies, 1000; East Indies, 500. During the session of 1848, the number of railways for which Acts were passed amounted to 85; the total length of the lines to 370 miles 60 chains; the length of deviation to 155 miles 68½ chains; the gross amount of capital stock to 10,904,866*l.*, and the sum of money the companies were empowered to borrow, 4,009,771*l.* The 85 Acts were thus classified:—6 amalgamation and lease; 3 for the purchase of canals; 12 for extension of time, and sundry amendments of Acts; 17 for deviations, extensions, and other works, for which no new capital was required; 2 for new lines by new companies; 26 for branches, extensions, and deviations, by existing companies; 6 for stations; three for harbours, ferries, and docks; 2 for steam-boats; and 8 for additional capital, for works already authorized. The total increase of mileage occasioned by the above Acts was 533 miles 11 chains. The total increase of capital was, 14,620,471*l.*

"An Enquirer" (Hartlepool).—The present price of coals at Calcutta varies from 30s. to 35s. per ton.

"A Reader" (City).—Diamonds are principally obtained from the Brazils and Hindoostan; latterly many have been imported from Siam, the Burmese empire, and Borneo.

"M. A. P." (Chelmsford).—Your communication is much too lengthy for insertion in our columns. If the extraneous matter is left out, and the whole considerably curtailed, at the same time preserving the pith of the matter, we shall gladly give it a place. The arguments adduced we have no doubt are correct, we only object to their verbosity.

"Manufacturer" (Birmingham).—White copper was formerly much used in Germany, for the manufacture of stirrups, bits, and spurs, as well as several other articles. The principal establishment for its manufacture was at Suhl, in the small duchy of Saxe Hildburghausen. Its composition was—Copper, 88·00; nickel, 8·753; sulphur, with a little antimony, 0·750; silex, clay, and iron, 1·750.

B. Green (Worcester).—The great seat for the manufactory of cutlery in France is Chatellerhault, in the province of Poitou. All descriptions made there are, however, immensely inferior to our Sheffield wares.

"T. H." (Castleton).—The price of English pig-lead was rightly quoted by us in last week's Journal—from 16*l.* to 16*l.* 5s. per ton. A letter, enclosed in one to the Editor, will be handed to our authority.

"G. H." (Callington).—The ores of tellurium are four—viz.: native, in which they are combined with iron and a little gold; graphite, in which they consist of tellurium, gold, and silver; yellow, which is a compound of tellurium, gold, lead, and silver; black, containing the same metals, with sulphur and copper. Hitherto they have only been discovered in Transylvania and Siberia.

"A Student" (King's College).—There are several compositions of mosaic gold used by artists in varnished works. The following is the most generally known:—8 ozs. of tin and of mercury being amalgamated together, are put into a matrass, with 6 ozs. of sulphur, and 4 ozs. of muriate of ammonia. The bottom of the matrass being ignited, the sulphuret sublimes; and if the heat be such as to make the mixture take fire, it is sublimed of a dazzling colour, in large hexagonal scales. The tin, minutely divided by its amalgamation, is oxidised by the muriatic acid of the muriate of ammonia; and the hydrogen, disengaged from the water of crystallization of this salt, combining with sulphur and caloric, forms a salphuretted hydrogen gas. Muriatic oxide of tin and mercury, united with sulphur, in the form of cinnabar, also rises. The remaining oxide of tin and sulphur forms the mosaic gold.

"Miner" (Redruth).—The powder used in the Spanish mines is obtained from the Government depôts. The manufactory of powder, as well as that of tobacco, and several others, being Government monopolies. Several of the mining companies have, on various occasions, petitioned the Government to be allowed to import their own powder, but it has been refused; one of the principal grounds being the fear of its being seized by the reactionary parties, who are perpetually raising revolutions in that distracted country.

H. Roquette (Paris).—There are no lead mines in Norway; small squats of galena have been discovered in the vicinity of Arendal, on the Western coast, but not in sufficient quantities to justify an exploration. The lead used in the silver works at Kongsberg, is imported from England.

"A Speculator" (Broad-street).—We never on any occasion recommend investments in any particular companies. The tendency of our remarks has been to recommend home in preference to foreign speculations.

"L. M. S." (Tavistock).—The Asturian mining code, though it differs in its details from both the Saxon and Hanoverian, yet, nevertheless, in its general principles, it agrees with them. The Government supervision in the Asturian is stricter, as regards all Crown dues and immunities granted by them to the miners.

"Tyro Chemicus" (Brompton).—Our correspondent may rely on it, Dr. Murray is right in his observations on the "Gold Alchemy," in our last week's columns. It is true, that the precious metal is found of a brown, reddish brown, yellowish red, bright and pale yellow colour, according to localities and circumstances; but these specimens are more or less contaminated with alloys of other metals, which give them their different shades, as copper, silver, platinum, iron, its oxides, &c. *Pure* gold is always of one uniform colour—a bright yellow. Gold has been found in so many substances, in vegetables, garden mould, several of the earths in nearly every country on the globe, and is the most extensively disseminated of all the metals next to iron, though frequently in such infinitessimal particles, that it is probable the experiments of "N." and "B. C. D." may have developed the gold already *invisibly present* in the substances employed; but to suppose it was *produced* by any mixture or galvanic process is ridiculous—gold must be present in the substance under examination, or it will never be obtained from it.

"Well Sinker" (Crouch-end).—There cannot be a doubt but that iron ladders for wells, or any description of shaft, are far superior to wood, and, if universally adopted, would be the means of preventing many dreadful accidents, which happen from breakage of ropes and rotting of wood ladders. They need not be made of bar-iron sufficiently rigid to stand upright; they should be made light, of about the dimensions mentioned by our correspondent, "H.," in last week's *Mining Journal*, and ought in all cases to be hung to quartering, or other substantial bearers in the shaft or well, sufficiently away from the wall to leave hand room, each 10 ft. length, independent of the next, but the bottom prevented from swinging from its position over the one below it. We know an engineer, who is now making some of a similar construction for a deep well which supplies his premises.

THE ELECTRIC TELEGRAPH.—SIR: A few mistakes appeared in my letter published on the 17th inst., which you will oblige me by correcting. Par. 1, line 8, for *lightening*, read *lightning*; line 16, for *in his view*, read *to his ears*. Par. 2, line 16, for *in which*, read *in what*. Par. 3, line 18, for *the brass balls*, read *two brass balls*. Par. 4, line 4, for *who was proposed*, read *whoever proposed*.—G. E. D.: *March 23.*

Tenders.—"A Mine Adventurer" (Fore-street)—"J. S." (Black Boy Colliery).

*** It is particularly requested that all communications may be addressed—

To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MARCH 31, 1849.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

We trust we shall not be charged with the least discourtesy by any of our respected correspondents, if we suggest to them, one and all, the propriety of very much lowering, and, if possible, of utterly blotting out, the golden reveries in which they have been recently luxuriating. We know that some great names and some high philosophical reputations, were once, in the comparative night of experimental science, associated with the popular project of procuring gold by some combinations, or some secret treatment of the more common and less precious metals. We see, in too many instances, that the reputed follies of our age are changed into the revived passions of another. Error and miscalculation is to-day, in a variety of cases, pasting up the same nest that they built and fell from centuries ago. The growth of natural philosophy, and the enlargement of experimental science since the days of the alchemist, has taught the world not a single lesson more certain or more settled than this—that what those laborious and persevering men attempted, they never could, by any possibility, accomplish. The whole class of metals—and gold, of course, among them—have been proved by a long series of chemical experiments, and of chemical reasoning in respect of them, to be simple, elementary, undecomposable bodies. But just now, upon no evidence whatever worthy of the name, some ingenious men will have it, that the monad is a dual, and that what has up to this time been a simple unity, is, in point of fact, a complex plurality. We cannot think that the experimentalists of several successive generations have been so inattentive, or so ignorant, as to have overlooked so great and interesting a truth. We fear, indeed, that the hens are, at this moment, sitting on pebbles, and that neither chickens nor gold will be the result of their incubation. And if it were otherwise, if gold could be manufactured at will, of what possible use could the discovery be?—of none whatever, but of incalculable mischief and misery; the man who made it would not be the benefactor, but the scourge of his species; for the hitherto settled relations of property would be so broken up, and the standard of value all over the world so disturbed, as would involve all commerce and all society in inextricable confusion. Of course, we point to such consequences in the most hypothetical sense only: there will be no discovery, no invention, equivalent to the production of such results.

After 20s. worth of labour and expense, it may be possible to produce a new compound metal, value 20s., having some of the sensible properties of gold; but still an essentially different thing, having none of its chemical, none of its electrical affinities, nor in any sense capable, by its atomic unity and its rarity, of taking the place of gold in the estimation of the world, or being a substitute for it, as a uniform and universal representative of value. We are exceedingly willing, as our columns everywhere show, to assist in the furtherance and publication of such works of art, and of public convenience, as have a fair proportion of merit and of novelty to recommend them; but we should abuse our position and our powers, as a branch of the public press, if we gave our support to theories which must be erroneous, if science is true, and which, if capable of actual demonstration, would rather tend to add to the confusion, than to consolidate the happiness and the order of society.

We have adverted, at different periods, in our columns, to the importance of a liberal treatment, on the part of the smelting interest, to both the home and the foreign miner; on the same occasions we have expressed our fears that, if a different course than that at present pursued was not adopted, we should incur the risk of losing a portion of the copper trade, and throw this important branch of national industry into the hands of foreigners. Though this apparently, in the first place, would appear only to affect the smelters, there is no doubt the blow would rebound with double force on our already much depressed mining interest.

The importance, and the absolute necessity, of having a sufficient supply of rich foreign ores, to flux the poorer produce of our own mines, is a truism which no one, in any way conversant with the question, will deny. Although, at the present period, there does not seem any great probability of a falling off in the supply of these ores, we cannot shut our eyes to the fact that, within the last 12 months, a competition has sprung up which is likely to have a most material influence on their future destination. The Australian mines, which promised to afford so plentiful a supply of ores, from the accounts which we have received, are likely soon to cease their shipments, or they will be so trivial that they will form but a small item in the Swansea sales. Already cake copper has been produced in the colony, and samples have been sent, both to this country and India, in order to see whether it will suit either of these markets. It is calculated that one smelting establishment will be able to smelt 10,000 tons of ore in the present, and double that quantity in the next year. Several others are about to come into operation, and the colonists anticipate, the succeeding year, that works will be established sufficient to smelt all the mineral produce of the colony. The importation of Australian ores, however large as it has been, is but of recent date; and, as it has always been anticipated, in proportion as the mineral resources of the colony were developed, improvements and economization of capital would take place by the reduction of the ores on the spot, their exportation to England may have been considered a matter of necessity, and their influx can but be regarded as an ephemera, which would last but a short period.

The production of Australian copper we do not suppose will cause any material difference in the European markets; but we fear, from the lowness of the freight, and their contiguous proximity to India, they will become formidable rivals, and eventually will probably supersede us there. In addition to these, smelting-works have been established in North America, which draw large supplies from Chili, and the other countries of South America, which formerly came here. The Elbe Copper Works, at Hamburg, have, for above a year, successfully carried on smelting operations—indeed, so fortunate have been their efforts, that the Prussian Government works at Berlin have declared their copper to be fully equal to Russian copper of the first marks, and immeasurably superior to the English cake copper, which it has entirely superseded there. Their copper has, likewise, been sold to the Marine Department of France, and pronounced by them to be of first-rate quality. So favourable has been the general result of their operations, that they cannot execute the orders they have received—the only difficulty being a deficiency in the supply of ores. Agents from them have been in England, eager to negociate with the foreign companies here for a supply; and purchases of ores have been made by them at more favourable rates than those given by our smelters. They have hitherto confined themselves to the reduction of South American ores; but they have now expressed themselves willing to purchase other ores, either delivered at Hamburg or London. So soon as they see the probability of a sufficient supply of ores, their intention, it is stated, is further to enlarge their works. The principles they appear to have proceeded upon, are small profits and quick returns. They have almost monopolised the German market; and this they have been enabled to do, though all their materials and fuel have been purchased in England. We make no comments; but let the facts speak for themselves. The conclusion we deduce from this is, that, unless some change takes place in our smelting departments in all their branches, we shall have other and more formidable rivals as near our own shores, emulating the example so successfully carried out by the Hamburg Copper Company.

TREATIES OF COMMERCE AND PATENT LAWS.

Although we, in our last Number, gave insertion to Mr. Campin's letter, his remarks have not in the least degree altered the opinion originally expressed by us on the subject—viz., that "we have long entertained a desire to see our patent laws put upon a more clear, liberal, and equitable basis than they now are."* And no cases, however antiquated, can induce us to refrain from adding our efforts to those now being made, for the amendment of a law which presses harshly and unjustly on the interests of our ingenious fellow-men, whether such be our fellow-countrymen, or foreigners, for "genius," it has been well said, "is of no particular country or clime, and the emanation thereof should be reciprocally protected." The whole tenor of our article shows, that our object was to point out the audaciously *illegal* attempts which had been made to nullify the provisions of an important commercial treaty, by presuming to prohibit the importation from America of goods, the admission of which into this country, *and vending thereof*, are guarranteed by the conditions of the said convention, and by threatening to levy on such goods, *a tax unauthorised by the Legislature*, and thereby to fetter the commercial operations of our merchants and traders, and such acts, we now advisedly repeat, have ever been considered offences of the greatest magnitude by the law of England.

As regards the "points" of the defendant's cases (numbering about 50) we know nothing, nor did we say one word respecting them, which would have been improper upon any matter, *sub judice*; but we have no doubt that the points will be duly examined by the learned gentlemen to whose able hands the defence was confided, whilst we sincerely believe that "a good time is coming" at home, as well as abroad, for *true and first inventors*, as really intended by the statute of the 21st Jac. I., however prejudicial the event may prove to grasping monopolists, or unscrupulous patentees, and that notwithstanding the antiquated and obsolete cases of Darcy *v.* Allen and Edgebury *v.* Stephens.

Our attention has been directed to an article in the *Times* of Wednesday last, headed "American Pontons for India;" and we are informed that the agent of the American manufacturer, referred to in our previous article on this subject, was the party who first introduced these pontons to our own Government—that he supplied two of them by order of the Master-General of the Ordnance—and that these are now with Sir Harry Smith, at the Cape, where they have fully answered all the purposes of a ponton equipage, and are found greatly to excel all other bridges for the conveyance of troops and artillery across rivers. These pontons are made of the materials the samples of which were exhibited, as stated by us in our former Number, and, therefore, our own Government will, we presume, have to call upon the Attorney-General to defend the importation of these pontons, in conjunction with those importers who have been selling articles of the same manufacture; the result of which, without stating our own opinions, we patiently await.

* See *Mining Journal*, March 17 last. A short time since an important petition was presented to the House of Commons, by Mr. Muntz, from Birmingham, for a revision of the Patent Laws. Others, we understand, will shortly follow, and doubtless, ere long, the whole subject will be fully considered by the Legislature.

CANAL ACROSS THE ISTHMUS OF PANAMA.

A suggestion for the successfully establishing a communication between the Atlantic and Pacific Oceans across the isthmus has been proposed by Mr. Bowden, of Wardrobe-place, Doctor's-commons, who, from his knowledge of the country, appears well able to give a correct notion of the difficulties to be overcome, and the advantages to be gained from any particular route. As to geographical position, he unhesitatingly decides in favour of Panama, where the distance across is under 40 miles—the mountains in its centre of less elevation than in any of the other three proposed routes—and that, by following the course of the valleys, a canal, which he thinks far superior to a railroad, might be constructed in 50 miles. He considers that capital embarked in a national undertaking in any of the Spanish republics would not be safe, unless the parties advancing the means held the sovereignty of the territory through which the canal, or railway, should pass; and in case of war a passage could be much better kept open by this route than by either Nicaragua or Tehuantepec. The commercial advantages would be enormous; we should be in a position to command the trade of Peru, Chili, Central America, Mexico, California, Oregon, and the numerous islands of the Pacific. We could compete with the Americans in the whale fishery, and open out a new route to China, Australia, and New Zealand. No calculation can truly estimate the advantage to our trade and shipping should such route ever be established; and, in the event of war, the possession of a passage for large ships and steamers would be of great importance.

The roads in Central America are of the most primitive kind—a mule track on a mountain ridge, or through what in a wet season is the bed of a torrent, a path through a forest, or over a sandy desert, is all that can be found; and such great works as national roads, canals, or railways, are rarely successfully accomplished in countries always involved in anarchy and revolution—these are the works of civilisation and peace. Mr. Bowden, therefore, suggests that the safest way would be to purchase, if practicable, from the Government of New Granada a belt of land, 30 miles wide, over the isthmus—not only the fee simple, but the sovereignty, and for which they might probably be induced to take 500,000*l.* for this concession. He calculates the cost of a canal, capable of admitting ships of the largest burden, with one large lock at each end, at 50,000*l.* per mile, or 2,500,000*l.*—making an outlay of 3,000,000*l.* The lands on both sides would be valuable for the growth of all kinds of tropical productions, and would soon become settled upon; for although the climate is at present by no means healthy, the malaria proceeds from the swamps and bush, and it is invariably found that clearing, burning, and draining, for the introduction of cultivation and population, improve the climate and render it healthy. As a return for capital invested, he calculates the tonnage at 500,000 tons per annum, which, at 1*l.* per ton for the 50 miles of canal, gives 500,000*l.* per annum, or 16½ per cent. profit, from which there is to deduct wear and tear, attendance, repairs, direction, &c.; but we think it probable these might be covered by the rents of country seats in the mountains for the merchants, and of lands let for sugar, coffee, and provision plantations. The suggestion is a good one, and well worthy the attention of the merchant, shipowner, and capitalist; while this desirable measure would probably be greatly advanced by an application to the Government.

COPPER-SMELTING IN SOUTH AUSTRALIA.—We have to record a pleasing instance of what can be done by individual efforts; or, rather, by the conjoint exertions of a united family, in this colony. It is not yet 12 months since Mr. Mauris Thomas, accompanied by two brothers and two sons, reached South Australia in the ship *Success*. After spending six weeks in town, they settled in the Mount Barker district, and there erected, with their own hands, in the vicinity of the Kanmantoo Mines, a smelting furnace for copper ores. The undertaking has been eminently successful, and this day the first 3 tons of merchantable copper have arrived in Adelaide, smelted by themselves, with the wood of the native forest as their only fuel. Mr. Thomas has since concluded an arrangement with the manager of the South Australian Company for the smelting of such of their ores as are not sufficiently rich for shipment to England direct, and thus a new stimulus has been given to mining industry, by demonstrating that metallic ores of small yield may be rendered conducive to the general wealth.—*Adelaide Observer.*

THE GOLD DIGGINGS AND HER MAJESTY'S SHIP "PANDORA."—The report which has appeared in the papers relative to the freight of 900,000*l.* sterling in gold dust, which it was said the *Pandora* was bringing home, is quite imaginary. She had taken a *small* quantity from California to Panama.—*U. S. Gaz.*

A grand demonstration took place at Tredegar Iron Works, on Thursday last, on the occasion of the opening of a new rolling mill. After the ceremony of opening the mill had been performed, the company proceeded to a public dinner at the Town-hall, where 260 guests sat down to partake of the good fare. Amongst the company we observe the names of G. Overton, Esq., of Merthyr, and B. Martyn, Esq., of Penydarren.—The *Monmouth Beacon*, which reports the meeting, says:—The engine is of 200 horse power; there are six engine-boilers; the fly-wheel weighs 45 tons, and the driving wheel 25 tons; it drives the four mills, which are capable of working upwards of 1000 tons of iron per week. The poor were not forgotten: 15 beasts were slaughtered, and 10,000 lbs. of meat, 9600 lbs. of bread, and 1200 quarts of beer were disposed of.

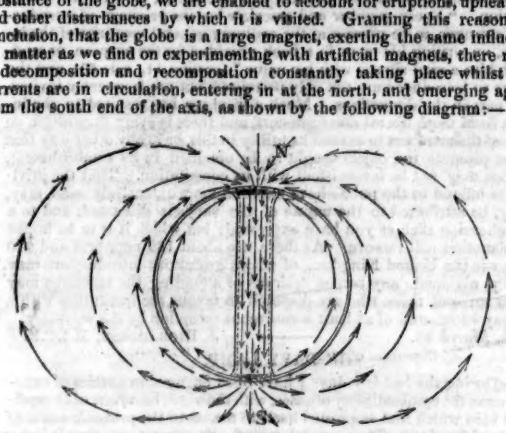
TERRESTRIAL MAGNETISM;

AND ITS EFFECTS ON THE SEMI-FLUID SURFACE OF THE EARTH.

Not many years ago "magnetism" was simply considered as that peculiar species of attraction exhibited by the magnetic needles; but now we find that it is a property inherent in *all* matter—the active principle of the mineral kingdom—and it has a most important influence in the general economy of Nature. Indeed, when we duly reflect that our globe is constantly enveloped by this universal subtle power, its presence being long known in every part of the civilised world, it is somewhat surprising that philosophers should have so long neglected this grand primary force, and that they should have assumed other forces, which are not only unknown, but are incapable of giving a satisfactory solution of the multifarious operations daily observed, which are now accounted for by the simple universal law of magnetism. The relations between chemistry and electro-magnetism, between animal and vegetable physiology, are becoming daily more apparent; geology, while explaining the structure and the entombed organic remains of our planet, finds itself dependent on this great natural agent, working in obedience to a fixed law. Hitherto geological science has been designated as a vague and useless doctrine by many of our practical miners; and it is true that primary rocks, with their mineral veins, have been left by speculative geologists, as *terra incognita*, in complete obscurity; but we are happy to observe a change for the better; the science is beginning now to have a more useful and practical bearing, and men are getting more anxious to learn it; and it is to be hoped that with this combined influence, and the diligent accumulations of new facts, such a degree of certainty will be attained, as may enable them to predicate with some confidence, not only questions connected with mineral deposits, but likewise all phenomena which it comprehends.

We have been led to make these observations on this interesting subject, in consequence of repeated applications from our correspondents, requesting us to give a short sketch of Mr. E. Hopkins's new system of geology, which, in consequence of its practical application to mining, and the satisfactory manner in which it accounts for all phenomena connected with terrestrial physics, is becoming all but an established system with practical men. The interest has been considerably enhanced of late, owing to the recent discoveries made by the indefatigable Dr. Faraday, corroborating, in a remarkable degree, Mr. Hopkins's general views, as explained in his work.*

Polarity of Rocks.—It is known, from time immemorial, that the rock called *loadstone*, when freely suspended, points north and south, but according to Mr. Hopkins, this is also its natural position *in situ*. It matters not whether the rock be a foot or a mile in length, the effect would be the same; and as all our primary rocks are more or less magnetic, it follows that, were it possible to lift the crystalline film of any given area, and make it to float, and left undisturbed, it would eventually occupy (like the loadstone) precisely the same position, end for end, as it did before it was removed; its polar grain would return to its natural meridional bearing, the same as the loadstone or magnetic needle. The primary rocks forming the mountains of Regelberg, in Germany, as well as the Andes, and other great ridges, have been known to attract the north end of the needle in the south, and the south end of the needle in the northern extremity, with so tremendous a power, vitalising, so to speak, every inch of the stony substance of the globe, we are enabled to account for eruptions, upheavals, and other disturbances by which it is visited. Granting this reasonable conclusion, that the globe is a large magnet, exerting the same influence on matter as we find on experimenting with artificial magnets, there must be decomposition and recomposition constantly taking place whilst the currents are in circulation, entering in at the north, and emerging again from the south end of the axis, as shown by the following diagram:—



Whatever substances may be decomposed and converted into gases, are again returned into the earth—nothing can be destroyed; whatever we may consume or reduce become again, by means of this circulating polar force, what they were before they existed in the form of vegetable, stone, or water—active agents in the business of the world, and main supports of vegetable and animal life, and are still susceptible of running again and again the same round, as circumstances may determine. The intensity of the action of the currents must necessarily be as their density. The poles are compressed or flattened by the concentrated power of the diverging and converging currents, and the attractive force varies inversely, as the square or cube increases. Mr. Hopkins considers that the narrowest limits that we can assign to the polar axis are the areas bounded by the Arctic and Antarctic circles.

After some excellent and lucid observations on the identity of magnetic and galvanic currents, and the filling of mineral veins by its influence, by reducing the metallic solution in a similar manner as effected by chemical art, the effects of the poles of the globe on all substances within the limits of their actions, metallic deposits, polarity of earthquakes, &c., he proceeds to prove the northward and undulating movement of the earth's surface, *en masse*, by the constant circulating action of magnetic currents. Mr. Hopkins not only establishes that the dry land does not possess that fixity of position, nor is it that solid and immoveable mass as formerly supposed, but that the surface is a flexible crystalline compound, floating on some more dense fluid, and subject to perpetual movements; that the land, as well as the ocean currents, is continually advancing with an undulatory movement *towards the north*, and that the magnetic tension causes those splits and fissures in the crystalline rocks, which, becoming filled with the deposits of metallic solutions, are called mineral lodes or veins. Among the facts referred to in proof of this northern movement of the earth's surface, he notices the fact that all the recent surveys and astronomical observations made in South America, show a northerly increase in latitude. That what has long been called the precession of the equinoxes arises from the same northern advance of the land which at present is also just 19 seconds per annum; and this change, in the lapse of a moderate number of years, destroys the arrangement of the catalogue of the stars, and makes it necessary to reconstruct them.

Since the formation of the earliest on record, the place of the equinox has retrograded 30°. Even Plato noticed this peculiar and gradual change, and said that the heavens and the stars appeared to change by time; the Egyptian priests also acquainted Herodotus that, from the commencement of the dynasty of their kings (11,000 years), the sun had apparently changed his course in the heavens four times. He also instances the changes of temperature in northern climes as evidence of this movement. Within the limits of historic records, there is abundant proof of the climate of Europe getting colder; and that the inhabitants of the north are continually settling southward. The first settlers in Iceland found extensive districts of that now dreary country covered with extensive forests of birch and fir; barley and other grain was also cultivated, while the whole island is now a dreary desert. On the discovery, and what is called the settlement of Iceland, relics were found which showed it had been previously inhabited. There was a country called Vinland, within a few days' sail of Greenland, watered by rivers yielding fine salmon; on the banks of which were trees loaded with delicious fruits; the temperature mild, and the soil fertile. Among the fruits were grapes, from which arose the title "the land of wine." This Vinland was, doubtless, Newfoundland. Wine was formerly made from grapes which grew in the open fields of England and the north of France; and there are ample proofs of a similar reduction of mean temperature in other parts of the continents of Europe and America.

It is in the *northern* regions we find the relics of man and his works, and probably the greater part have disappeared, from the rapid destruction and oxidation of the land at the North Pole. All geological researches prove that in the northern latitudes we find the animal spoils of the southern countries, and the marine exuviæ of the southern seas; but in the southern seas we find no remains of animals, vegetables, or shells, belonging to the northern, but those only of the neighbouring seas; nor are there the consolidated series of sedimentary rocks in the southern hemisphere. Among the animal remains strewed over Europe, are those of the elephant, rhinoceros, hippopotamos, hyæna, bear, lion, tiger, crocodile, and others, now only found in tropical climes. The remains of vegetation are also abundant and similar; the cycadeæ and pines are of the nature of species now found only in the southern hemisphere. Of the four recent species of araucaria at present known, one is indigenous to the coast of New Holland, another in Norfolk Island, a third in Brazil, and the fourth in Chili; extensive remains of similar vegetation are found in all the coal measures of the north. Indeed, in the last volume published by the Government geologists, under the superintendence of Sir H. De la Beche, we find the description of the flora of the coal fields so exactly corresponding to that of the existing flora of the southern hemisphere, that the analogy is complete. The coal formation is, consequently, denominated by Mr. Hopkins the *deposit of the south temperate region—i. e.*, that our coal beds were formed in that zone, and gradually brought, with other deposits, towards the north.

In the coal-beds of Melville Island, fossil plants are found, which required south tropical heat and moisture for their growth, and could not possibly have flourished through the cold and six months' night of the arctic regions. An island, or continent, moving from the south, would naturally carry its sponges, ferns, corals, and animals, to the north, modified by the changes of temperature through which it passed: and the immense deltas of floating wood in process of formation at the embouchment of the La Plata, Amazon, and other rivers, in the southern zone, to be alternately elevated and submerged during their ages of transit, would seem to be the means of providing an endless succession of coal-beds for the inhabitants of the chilly north.

[*To be continued in next week's Mining Journal.*]

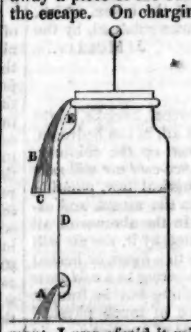
* "On the Connection of Geology with Terrestrial Magnetism: showing the General Polarity of Matter, the Meridional Structure of the Crystalline Rocks, their Transitions, Movements, and Dislocations," &c.

ON PYROGEN.*—No. I.

BY JOHN JOSEPH LAKE, ROYAL LABORATORY, GOSPORT.

[The author has placed communications on the above subject before the public at intervals during several years; but they are scattered amongst various publications, some of which are now difficult of access. Considering, therefore, that it might prove acceptable to gather the substance of them in a collected form, he proposes to do so in this series of papers, with revisions and additions, which he originally intended to have published in a separate form.]

Having a small Leyden jar, with a little star-like crack near the bottom, that prevented it retaining a charge beyond a very limited time, I cleared away a piece of the outer coating, of about the size of a shilling, to check the escape. On charging the jar, the fluid poured out of the crack like a stream of water, and passing the outer coating, descended to the table, as shown at A. On continuing the working of the machine, it next flowed over at the top, B, descending like a luminous stream, until it arrived on a level with the outer coating of the jar, when it was suddenly cut off, as at C. The appearance at A and B are only perceptible in the dark. That at B extended all round the lip of the jar. On discontinuing the working of the machine, the fluid ceased to flow, first at B, and then at A. On renewing the operation, it reappeared first at the crack, A, then at the lip, B. When the jar discharges itself spontaneously, it always does so on the line, E, C, as straight as the shoulder of the jar will allow, and never at A.



When I published an account of this experiment, I was afraid it might fail in the hands of others; but some who have opposed the inferences drawn from it, state that they have repeated it, and any one having a Leyden jar, similarly circumstanced, may do the same.

From this experiment it may be seen that the electric fluid possesses the property of gravitation, independent of its well known ones of attraction and repulsion. This appears from the curvilinear form of the streams, A, B; for, were ordinary electrical attraction and repulsion acting alone, the streams would proceed direct to the outer coating; as, when the jar discharges itself at E, C, and not assume the appearance of being projected like water. It is evident, notwithstanding that attraction and repulsion are at work in the experiment by the different terminations of the streams, A, B; for, as soon as B arrives on a level with the outer coating at C, it disappears. The cause of this seems to be, that the large surface of tin-foil presented to the stream at D, and that, too, in a negative state, overcomes the power of gravitation; but at A the latter force prevails, the small surface of the metal below not being sufficient to overcome it. From this it may be seen that the fluid gravitates to the earth, when there is nothing presented to it by which it can exercise its attractive or repulsive properties in preference. The existence of the electric matter may also be inferred from the peculiar effects observed at A, where the luminous stream does not approach the outer coating, as, according to the received laws of the attraction of the positive for the negative fluid, it ought. Instead of doing so, it passes by it, and, as already observed, when the jar discharges itself the charge issues by the lip to the outer coating, notwithstanding the distance between the coatings is very much greater by way of the lip than at A—a thing contrary to ordinary experience, that the fluid to recover its equilibrium should take a longer and more circuitous route, with a greater amount of insulation to overcome, when a shorter one, attended with less difficulty, presents itself, which, on the immaterial theory is the case; for the small orifice ought not to be an impediment, since what is immaterial cannot require space to move in. Why, then, does not the jar discharge itself at A? Because the fracture is sufficiently small to impede its progress, and it can only ooze out by degrees, which alone proves the existence of matter, part of which can be held back, like water in a cistern, whilst part is issuing through an opening too small to admit of the whole escaping at once.

The *Medical Gazette* is of opinion, that the fluid appearing first at A, and then at B, and again disappearing, first at B, and then at A, on stopping the working of the electrical machine, proves the existence of matter, in which I agree. The experiment, however, affords the other plainer evidence of the fact given above. It has been objected to this experiment that the appearances observed are only the result of the struggles of the two theoretic fluids seeking each other to restore the electric equilibrium. But, if so, how different the appearances are from what, according to known electric laws, they ought to be. For, to restore the equilibrium, the fluids should meet each other by the shortest and easiest way; but, instead of doing so, and the jar discharging itself spontaneously at A (the shortest and best path, since it offers the least insulation), it prefers B; so that the advocates of two fluids are placed by this experiment in a dilemma, and must either admit that the fluid is material, and cannot pass through the crack *en masse*, or deny the existence of a negative fluid.

I have also published another experiment, proving the existence of pyrogen. It has been noticed recently in the *Mining Journal*; but I do not think there will be any objection to its being referred to here more in detail. It is a well known fact, that water will cause two substances with even surfaces (paper and glass, for instance) to cling together, not from any change it produces in these bodies, but solely from the tenacity with which its own particles adhere together; and this attraction, or adhesion, can only be produced when some foreign body of sufficient density is introduced between them. Now, let two pieces of clean common window-glass be taken, the one a good size, and the other not exceeding half-an-inch in any direction; and let the larger piece be charged with the electric fluid. Then lay the smaller piece lightly on the charged side of the larger, keeping it steady with the finger until they are inverted, so as to bring the small piece underneath. On removing the finger, they will be found to adhere slightly together. Again, on changing and inverting as before, but moving the smaller piece gently over the charged side of the larger one, before removing the finger, the adhesion will be found to have increased to an extraordinary extent. The latter method of conducting the experiment shows more clearly the existence of matter, and, at the same time, is not open to an objection that might be urged against the first—namely: that the attraction only continues until the larger piece has communicated its quota of pyrogen to the smaller one; for, if this were the case, the passing of one piece over the other should most materially expedite the result; whereas, instead of doing so, it produces more powerful attraction. Atmospheric air will not keep the two pieces of glass together, not being of sufficient density. We may, therefore, conclude that pyrogen is more dense than air, and that by the second way of conducting the last experiment, it is pressed, or worked, into the inequalities of the glass, and the air expelled in much the same way as it would be if there were any between when water is employed.

* From πυρ, *fire*, and γενναω, *I give rise to*.

Original Correspondence.

BOVEY LIGNITE—EXPERIMENTS.

Sir,—In returning to the subject of Bovey lignite, with a view of giving some information on the nature of the ash and the gaseous products, it may not be without interest to include the result of some recent experiments on a portion of the lignite containing 17 per cent. of ash, and, therefore, to be regarded as nearly an average specimen of the whole strata; to be assured of this, however, as stated in a former paper, would require a great number of analyses of portions taken from every part of the coal-field, which is composed of some 19 beds, varying from a foot and a half to many feet in thickness. The analysis of a purer specimen of lignite is also added, from an interesting paper on coal by Mr. Vaux, in the *Quarterly Journal of the Chemical Society*, No. III., which, whilst it serves to corroborate my own experiments, proves also the very variable proportions of the products from different parts of the bed, or seams of coal, and the impossibility of determining what the constant results would be on the large scale; these remarks refer more particularly to the gaseous and tarry products, the amount of solid residue, or coke, is capable of more accurate determination; but from my own experience, as before mentioned, the coking of lignite is decidedly impracticable, from the peculiar laminated structure of its substance, which renders it liable to crack and split up into thin layers, when dried at any degree of heat, or even at ordinary temperatures, *in vacuo*, over oil of vitriol. If thrown also into a retort, or crucible, in its moist state, and raised at once to redness, the same result takes place—hence the expectation of ever obtaining it coked in masses appears to me to be utterly hopeless.

DARK-COLOURED DULL-LOOKING LIGNITE.

	1st Experiment.	2d Experiment.	Vaux.
Water	22·10	22·10	34·660
Tar	20·86	20.82	—
Gaseous matter	13·46	11·26	34·631
Coke	23·22	25·46	30·709
Ash	17·42	17·42	1·479
Sulphur	2·94	2·94	1·544
Nitrogen	—	—	0·369
	100·00	100·00	103·392

The water and sulphur were both again determined for this experiment, and, on comparing the latter with the amount obtained in purer specimens, it might appear to increase in proportion to the deterioration of the lignite. The ash of lignite varies much in colour, from almost perfect whiteness to dark cinnamon brown, depending on the quantity of oxide of iron present; its chief constituents, however, as the annexed analysis by Mr. Wild, one of the laboratory students, will show, are silica and alumina, the principal elements in felspar or granite; and by calculating the equivalent proportions of these substances in the ash, from the quantities found by direct experiment, alumina and iron being taken as base, we get very nearly $Al^2 O^3, 3\ Si.\ O^2$. Now the formula for felspar is $Al^2 O^3, 3\ Si.\ O^2 + K\ O\ Si.\ O^2$; from which we may conclude that the ash in the lignite is nothing more than felspar, deprived by the action of air and moisture of its alkaline silicate; or, in other words, clay deposited with, and at length forced into, the very structure of those mighty trees and shrubs of a former age, which now, in their blackened and altered condition, constitute this remarkable deposit:—Silica, 53·28; iron, sesqui-oxide, 7·00; alumina, 38·00; lime, 1·32 = 99·60. Does not this large amount of clayey deposit afford us some insight into the formation and peculiarity of the Bovey coal-field, as distinguished from ordinary deposits of this nature? May we not conclude that it is more exclusively an inland formation, the deposit, perhaps, of some vast lake fed by streams, the bearers at once of the fallen oak and pine, and the decomposed rock, on the soil of which they grew? The gaseous products, collected over mercury and roughly examined, appeared to consist of about 73·5 per cent. of hydrogen, light carburetted hydrogen, and carbonic oxide, and 26·5 of carbonic acid and sulphuretted hydrogen, absorbed by caustic potassa. The specific gravity, approximatively calculated from the weight by loss, and the volume corrected for temperature and pressure, was ·729; that of coal gas varying from ·65 to ·5, or even lower. But this high specific gravity does not arise from olefiant gas, the valuable constituent of coal gas, the density of which is ·981, but from the carbonic acid so largely present; for, when burned, the flame scarcely differs from that of light carburetted hydrogen—a gas superior only in its illuminating power to hydrogen, which latter may be placed at zero.

It is a matter of regret to the chemist when, as in this case, his researches tend only to negative results—to close, instead of to open or enlarge, a field for the profitable investment of capital and honest enterprise; nevertheless, those results are valuable, inasmuch as they prevent the expenditure of wealth uselessly, and warn from loss, though they do not direct the way to fortune.—F. Rudall: *Laboratory, University College, March* 23.

TELEGRAPHIC COMMUNICATION BETWEEN ENGLAND AND FRANCE.

Sir,—Allow me, through the medium of your valuable Journal, to draw attention to a theory upon which a telegraphic communication may be made between England and France without wires; and as this mode of telegraphing seems to be the ultimatum of all wishes upon the subject, I do not hesitate to lay before your readers for investigation, experiment, or actual use, this, my view of the subject. I take for certain (as experiments I have made have shown me), that when the positive and negative poles of a battery are dipped into, or connected with, any conductory medium, the electricity of the part round the positive pole is positive, being diffused in radial lines; and the part round the negative pole is negative in radial lines converging towards it, supplying the electricity requisite for the decomposition of the substances composing part of the battery. This understood, it is evident that, when a positive radial line sets out from the junction of the battery with the earth, it makes way to, or is attracted by, the nearest negative portion of earth, at last meeting the negative pole of the battery, and restores the equilibrium. From this, it seems that the first portion of electricity will pass in a straight line, being the shortest between the two poles; the rays will then form curves between the poles until, by reason of increasing distance, they are no longer influenced by one another, without a better medium of conduction being interposed in their circuit. It is natural to suppose that all parts of the earth are not of one uniform electrical density; if so, then some parts are positive, and others negative; then from this it is easy to see that some of the electricity, flowing from the positive pole, is the means of restoring equilibrium to negative portions of the earth, not necessarily rendered so by the negative pole of the battery, and also positive portions for the same reason rendered neutral, or negative, that do not owe their state of electricty to the positive pole of the battery.*

These rays of electricity may be collected in a certain quantity between the point whence they start, and where they are rendered neutral. By the interposition of a metallic medium, that shall offer less resitance than the water, or the earth—obviously the nearer the battery the greater the chance of collecting them. I do not anticipate the distance of 20 miles is at all too much (with the means we can use to compensate it) to collect a sufficient quantity of electricity to be useful for telegraphic purposes. Still the quantity would be small, and, with the present telegraph instrument, its presence would not be detected at all. The current in the wire must be detected not by its amount, but the fact that it exists in any quantity, however small. If, then, electricity can be collected in France simultaneously with a discharge from a battery in England, all that is required to know is what to do with it, so that it shall indicate its presence. I will now lay before you the arrangement I propose for carrying out this design.

1. Upon one shore I purpose to have a battery that shall discharge its electricity into the earth, or sea, having a distance between its poles of 5, 10, or perhaps 20 miles, as the case may be.

2. Let a similar length of wire be erected on the opposite coast as to near and parallel with it as possible, having its ends dipping into the sea, or earth.

3. Within the above circuit of wire have an instrument, consisting of about 10, 20, or more square or round coils of finest wire of best conductability, suspended on points or otherwise—being part of the circuit wire "No. 2." Suspend this coil before or between the poles of an electro or permanent magnet, or magnets, and in either case any current passing

* The present electric telegraph is effected by what is termed "aurorax," or a current o electricity passing along the wires of the telegraph—of course, entering and passing through the coil used—thereby deflecting the needle. While inspector of telegraphs on the lines between Rugby and Newcastle, I have known that for hours the telegraphs, on particular sections of the road, have been useless from this deflection—often moving the needle from the perpendicular to either side and back again in a few minutes—giving evidence, therefore, of different currents flowing in the same direction, or the same current in different directions. As the telegraph wires are terminated at each end with a plate in the earth, these wires are then portions of the earth; and currents flowing from place to place pass along them.

through the coil, would be indicated by its moving or shifting position.† This would then constitute the telegraph. It now only depends on the distance allowed between the poles of the battery in one case, and the ends of the circuit wire in the other, together with the lightness of the coils of wire having reference to their number, and the power of the magnet, or magnets, used to deflect it—all things that are easy of adjustment, and when once done are certain of continuance; at all events, much more so than a submerged wire the whole distance across the Channel.

I hope some one will soon take up this suggestion, and carry it out practically, to a greater extent than my limited experiments have enabled me; for of its truth for long, as well as short, distances I am satisfied; and want of means only prevents me carrying it out at once. I venture to say what I have on an experience in electricity of 10 years, and a practical acquaintence of electro telegraphs of five years. J. W. Wilkins.

March 28.

THE GOLD EXPERIMENTS.

Sir,—Your correspondent, Dr. Murray, in alluding to these experiments, says that "men are now too wide awake to be so easily cheated of their senses." This strikes me as being precisely what some grave philosopher of ancient times would have said when receiving a hint, for the first time, that the earth went round the sun, and not the sun round the earth. The labours of the alchemists, instead of disproving anything, only prove that the idea that metals are not simple substances, is one as ancient as chemistry itself. Many scientific truths, and many useful inventions, have floated about the world in embryo for ages, before they were fully demonstrated, or brought to a practical bearing. Dr. Murray's remarks concerning the colour of gold, and the alloy of platinum and copper, are altogether beside the mark. He must be poor in pocket who does not know the colour of gold, and he must be equally poor in intellect, or, at least, in chemical knowledge, who cannot test the difference between gold and platinum or copper. Dr. Murray accuses myself and others of making "vague and unmeaning assumptions;" I made no assumptions, vague or otherwise. In plain words, I stated a plain fact, which fact, I have no doubt, will in due time be verified by others. I blame no one for being incredulous; it is very natural. Such is always the first greeting given to any new and startling idea, or fact. But hundreds of instances might be recounted in which the wonders, the incredibilities, and the monstrous absurdities of one age, or even of one year, have become the accepted *dicta*, and the established facts of the next. That I am in earnest, your advertising columns will this week attest. My greatest regret is, that fortune has not left it in my power to take the share which I should wish in developing this new fact.—B. C. D.: *March* 27.

THE GOLD EXPERIMENTS.

Sir,—I think few persons have read without "great suspicion" the letters of "B. C. D." and "N." of the 10th, 17th, and 24th inst., contained in your Journal. There can be no doubt that "B. C. D." has obtained gold *from* his experiments; but to suppose that the particles of gold thus found did not pre-exist in the substances used by him—that they were formed by some other substance—is to contradict many of the most important and well-ascertained facts connected with modern chemistry. How many hundreds of those who called themselves alchemists in olden time laboured under the same ideas by the results of similar experiments? That all gold contains silver, and all silver gold, unless highly purified, is quite certain; and also that these two metals are found in exceedingly small particles, united with many of the earths from which they may be separated, either by means of heat, or placing them under the influence of a galvanic current; but if metals, or earths, are not subjected to one or the other of these processes, the very minute particles of gold or silver which they often contain are not discovered. Nature daily carries on such operations underground; and the masses of gold now found are, no doubt, the product of the attraction of cohesion. If the metals are really homogeneous, as some suppose them to be, how is it that, when two or more metals are fused together, they unite only mechanically—that they *all* differ in specific gravity in malleability, colour, sound, &c.—that what is a solvent for one is not for another? I would ask "B. C. D." and "N." whether we ought not to consider gold and the other metals to be all simple and distinct elements, until we are either able to decompose them, or show by satisfactory experiments, that they are compound bodies? When I state, Sir, that for some years past I have been actively engaged in ascertaining, as far as I possibly could by practical experience, the nature, properties, and differences of metals, I trust the few remarks now made may not prove unacceptable to some of your readers. J. B.

March 27.

ON THE USE OF ANTHRACITE COAL—IRELAND.

Sir,—Anthracite possesses extraordinary powers for smelting and working iron; but these have never yet been properly developed, from a want of due attention to the peculiarities of the coal. I have been long occupied in contriving an improved arrangement of furnace for smelting iron adapted to suit these properties, as well as for treating the metal afterwards. Your valuable correspondent, Mr. Mitchell, having been engaged with a most important investigation into the habitudes of iron and carbon, which I have watched with great attention, has induced me to pause before coming to a final conclusion, as his remarks might lead me to alter some parts of my plans. The use of anthracite coal, worked by blast, will be found extremely valuable for treating ores containing the volatile bodies—zinc, arsenic, and sulphur. The total absence of smoke and soot, the complete command which the use of a blast affords over the passage of the vapours from a furnace, and the means of throwing in an unlimited quantity of fresh air to oxidise these, render the recovery of all three, when existing together in the same ore, easy and certain. Zinc and arsenic will condense as oxides—the sulphur passing on in the state of sulphurous acid. This may be either decomposed and recovered as solid sulphur; or, treated with more oxygen and heat, will form sulphuric acid, and may be condensed in any suitable flue, or chamber, by steam or water into liquid sulphuric acid. When zinc is highly oxidised, it is not volatile; arsenic is. The two oxides may, therefore, be separated by a second sublimation, and both obtained in a state of great purity. I wish to draw the attention of your mining readers to this subject. An ore containing a low per centage of copper, and a considerable proportion of some or all of these volatile bodies, may be of more value for the latter than for the former. Sulphuret of iron, under the various denominations of pyrites, mundic, and sulphur ore, is very abundant, and hitherto of little or no value. From this ore, with an addition of carbon, acted upon by heat, air, and the vapour of water, sulphate of ammonia and granulated metallic iron, in combination with carbon, are to be obtained. Should this ever be carried out, it will prove the most beautiful chemical process ever put in operation. Sulphur ores are very abundant in Ireland, and so is peat—an article composed chiefly of carbon—in fact, yielding by proper treatment the finest charcoal. Sites favourable for obtaining water-power, sufficient to work fans for blast, must be plentiful. This subject is worthy the attention of mine and landowners anxious for the amelioration of Ireland and the improvement of their own properties. The consumption of sulphate of ammonia would be very great, as I recommend it to be used for decomposing salt in alkali works, instead of the expensive process of manufacturing sulphuric acid. This alteration in the alkali manufacture, would put a stop to any chance of nuisance or damage from these works, by the escape of muriatic acid into the atmosphere. A large quantity of muriate of ammonia would be produced, for which a profitable market could be provided. The granulated iron and carbon, remaining after the preparation of the sulphate of ammonia, could be advantageously employed to decompose the sulphurets of copper.—T. H. Leighton: *March* 22.

IRON LADDERS FOR MINES.

Sir,—I observed a correspondent in your last Number recommends iron ladders for mines. Had "H.," of Birmingham, visited underground works, he would not only find iron ladders, but also chain ladders, and particularly in winzes. Iron ladders in some mines would disappear in less than three months, owing to the acids, and other corroding elements, as I have often seen myself. Let your correspondent climb up and down, half-a-dozen times, a depth of 200 fathoms by means of iron, instead of wooden ladders, he would soon call out for wooden steps; and if he escapes from broken shins, he will be a lucky fellow. A Miner.

Camborne, March 29.

† The coils, under these circumstances, would, if between the poles of the magnet, or magnets, move from any position, and lie parallel to the poles of the magnet; and, if in front of the poles of the magnet, would move from side to side in a plane parallel to the ends of the poles. I claim these movements as designs or inventions of my own—as telegraphs working with the least amount of electricity and *resistance*—as the movement depends not so much upon the current passing as the power of the magnet, or magnets

VENTILATION AND THE SAFETY-LAMP.

Sir,—While I could wish to see mental ingenuity directed to an entirely *new system* of working the coal mine, and I cannot but think that the elements of a more judicious mode than any plan previously employed are to be found in the methods propounded by the late Mr. J. Ryan and Mr. Gibbons, unquestionably, *ventilation* is the paramount object. The safety-lamp is, beyond all doubt, a very subordinate affair, however valuable as an auxillary. Mr. Crane's remarks are most mischievous, and have been very wisely denounced by Mr. Hopkins, in whose judicious and well-timed remarks I must entirely concur. The best safety-lamp ever invented by the skill and ingenuity of man, or that can ever be supplied by human genius in its loftiest form, can never diminish, by one iota, the supreme importance of ventilation. An endeavour has been made to detract from the merits of Mr. Gurney, and transfer the originality to another!—*valeat quantum*; but how far Mr. Struvé's patent ventilator is to operate as an *extinguisher* on the powerful ventilation produced by a jet of high-pressure steam, remains yet to be seen. I see no difficulty whatever either in providing a proper position for the boiler, or making due provision for the condensed steam. We want a safety-lamp emitting more light than the glow-worm gleam of the "Davy." I shall not, however, venture to discriminate in the laudable enterprise of benevolent minds to contribute from the stores of their ingenuity towards this end and purpose. I have spent 30 years on the question, and am now wearied with the subject, and it is quite time I should rest from these labours. Let others enter the lists. With ventilation by Mr. Gurney's high-pressure steam jets, its power regulated and determined by Mr. Biram's excellent anemometer—by far the best I know—a safety-lamp, yielding a sufficiency of light through a screen of mica (Muscovy glass), shielded from currents, and protected from "blowers," the safety of the mine would be so far insured. I think it is highly necessary to adopt the gutta percha tubing, supplied with Whishaw's whistle to sound the note of alarm, in the case of danger, as recommended in the prospectus of the Gutta Percha Company. A similar, though larger, tube, connected with a powerful forcing-pump, would supply, in the emergency of explosion, a stream of reanimating air, as in the case of "after-damp" and a stagnant atmosphere. Some weeks ago, I had suggested this extension of tubing to the Gutta Percha Company. These necessary things being provided, and the appliances enforced, a brighter day would dawn on the cimmerian darkness of the mine.

A safety-lamp *cannot* be dispensed with; for the miner may be surprised by a sudden influx or disengagement of "fire-damp." The indications of the anemoid will announce the circumstances under which an issue of "fire-damp" may be anticipated in a retrocession of the index, which, however, may be controlled, and its power and influence subdued, by the ventilation provided by Mr. Gurney. J. Murray.

Portland-place, Hull, March 22.

ANTHRACITE AS FUEL.

Sir,—Anthracite, or "blind," or "stone" coal, charcoal, or coke, ought invariably to be rejected from the ordinary fire, above all, in the bedroom, because the products of their combustion can never pass up the chimney, but, on the contrary, will be diffused in the room, since *cold air will rush down the chimney*, there being *no flame*, which, by a statical law, pointing upwards, rarefies the air of the chimney, and prevents the ascent and escape of the carbonic acid gas and carbonic oxide. In the absence of all flame, or in the case of a chimney not previously heated by it, the air will descend to the source of heat and rarefied medium, as to a focus, or heated sphere. Another dangerous practice consists in transferring to a *cold grate* live, or red-hot embers, during severe weather; nothing can be fraught with greater peril in the bedroom—the fruitful cause of much physical suffering, and, not unfrequently, the unsuspected cause of apoplexy.

Portland-place, Hull, March 27. J. Murray.

ALARUM ON RAILROADS.

Sir,—Before gutta percha tubing had been proposed for any purpose, I suggested, you will remember, a railway alarum, being a metallic pipe, communicating from station to station, having a condensing piston at one of the termini, and a whistle at the other. The gutta percha tubing is admirably adapted for this purpose, which, when supplied with Whishaw's whistle, would instantly sound the note of alarm in case of danger.

Portland-place, Hull, March 27. J. Murray.

ÆROLITES.

Sir,—I am pleased to see that you concur with my views respecting the formation of meteoric stones—namely, that they are not extra atmospheric, but formed in our own atmosphere, from the electrical agency of the thunderstorm acting on their material constituents, their precipitation to the earth being instantaneously consequent on their production.

In my treatise *On Atmospherical Electricity*, I have repudiated the views that have been entertained respecting these comparatively unfrequent visitants to our globe. They were long treated as fabulous, and when scepticism could not be indulged, some assigned them a lunar origin. Sir D. Brewster considers that there may be a zone of these strange and eccentric concretions whirling round our nether sphere, or wandering among the regions of space—the "signs and wonders" of the firmament, which sometimes, to our astonishment, salute our earth.

"Credat, Judæus Apella, haud nos!"

I have in my cabinet an entire aërolite, together with a fragment of those which fell at L'Aigle, in Normandy, as well as a large fragment of that which fell at Juvenas. One common feature characterises all aërolites. Their formation by electricity is not more difficult of credence than those enigmatical tubes, called "*ceraunian scinter*," beyond all controversy, the offspring of lightning.—J. Murray: *Portland-place, Hull, March* 27.

GAS FROM WATER.

Sir,—I have lived to see many strange things come to pass. I have no pretensions to the seer's ephod, or the prophet's mantle, but I compel my prepossession to bend before matter of fact, and, when once "rooted and grounded" in such stubborn things, I am unwilling to abandon the grasp. Of this character was my discovery of the excretion of carbonic acid gas by the roots of plants—ridiculated at home, and scouted abroad—now established beyond a question, or a doubt. Of a similar complexion was my announcement, in 1818, in my lectures at the Surrey Institution, that the time would certainly arrive when *water* would become an article of fuel, &c. I was *laughed at*, though I had demonstrated the fact *experimentally*. It was predicted because it was proved, and Evans, Ivison, and others, obtained patents on the principle; while Fife and Grove have simply confirmed my conclusions. J. Murray.

Portland-place, Hull, March 27.

THE BAROMETER.

Sir,—In Mr. Dent's very excellent *brochure* description of that elegant and, I will add, useful instrument, the aneroid, we have a pleasing summary of the various forms of the barometer, inclusive of the sympiesometer. The diagonal barometer, and the *luminous* one of Fontana, might have been referred to, but the one is by no means an elegant modification of form, and the latter rare and seldom seen, and, I will add, inaccurate, from its march being interfered with by the method adopted for its illumination. I never saw but *one*, and that one was in Italy.

I remember the late Richard Saumarez, Esq., showed me a barometer, in 1818, which he had constructed on the principle of the *elasticity* of the atmosphere—the resilience of the atmosphere being equivalent to the pressure arising from its gravity. I have never heard of another founded on this attribute. I esteemed Mr. Saumarez as a sincere friend—an acquaintanceship of not a few years. True, he was eccentric, haply, in some of his views, but his mind was sound and scientific, and he was both the gentleman and the scholar. Perhaps his feelings were too sensitive, for the sensibilities of his mind were acute; but this is a "weakness that leans to Virtue's side." Poor Mr. Saumarez!—the last time I saw him was at the British Association, on the occasion of its anniversary, at Edinburgh, in 1834. He rose to read a paper on the subject of light, when, by a *preconcerted signal*, the chair and the platform were vacated—"strange, passing strange," treatment this. I do not pretend to account for the *mystery*, I only state the fact; perhaps the then *secretary* can elucidate it. Mr. Saumarez returned to Bath, *only to die*, and his own physician confessed to me that he sunk under the rude shock.

I think Mr. Saumarez supported the Newtonian view of the materialism of light, in opposition to the then prevalent undulatory hypothesis; so does Sir David Brewster; and a little novelty, even if eccentric in some of its phases, might well be excused in so abstruse a subject. Apart from his own personal virtues and scientific attainments, the brother of Lord Saumarez merited more courtesy and a different treatment. This is the *last* of these assemblages I have attended, and this the reason—"Love me, love my dog."—J. Murray: *Hull, March* 27.

FREE TRADE.

Sir,—The intelligence conveyed in your last Number, more especially as regards the copper mining companies of North America, cannot fail to produce a deep impression in this country. It will, I apprehend, confirm many in the belief that it will be difficult for us, with our national debt of 766,000,000*l.* sterling, to compete with other countries having little or no debt, and altogether impossible, if we do not avail ourselves of the many advantages consequent upon the denseness of our population; the gigantic strides which agriculture and manufactures are making in the United States, show how necessary it is for us not to lose any advantage we may possess as regards the latter. The opinion, too, held by many persons, that the abundance of coal, ores of iron, lead, and copper, was peculiar to Britain, must be weakened by the events of the last few years; it is, therefore, very unfortunate that this country has gone in a few years from one extreme of Custom-house duties to the other—from high protecting duties, or absolute prohibition of foreign materials, to complete free trade in these articles. True, there is a chance that our trade may revive sooner than it otherwise would, in consequence of an extraordinary discovery in California, and by the opening of foreign ports at moderate duties for our goods; but, without these hopes, there is great reason to fear our commerce will receive severe shocks from the trade of other counties. It is, however, in every way, greatly to be regretted that free trade was not conferred to the colonies. The copper smelters of this country are probably not aware that they have also in effect held out a premium for the establishment of mining and smelting companies in other countries; for so long as they are content to lose *at least* 50 per cent. by their mode of smelting, it is, of course, a premium to other countries to that amount. The fruitless attempt of the Colombian Mining Association, to extract silver from its ores in reverberatory furnaces, is surely conclusive enough that the play of chemical affinities for the extraction of the metals from their ores is far superior to the mere action of heat in a reverberatory furnace. It was too late for that mining company to rectify its errors consequent upon the want of knowledge regarding the ingenious process of amalgation; and so it was with some parties here, who tried, by the action of fire only, to compete with the new process of desilvering lead. But these are trifles in comparision to the risk of this country losing its copper trade; it is already too well known that the smelting of zinc has ceased to exist in this country.—Wm. Birkmyre.

March 28.

INSTITUTION OF CIVIL ENGINEERS.

Sir,—In one of your leading articles in the Journal of the 24th inst., you call attention to the Institution of Civil Engineers, in which you state, "a rule is laid down, that no paper can be received, unless the production of one of its members—a rule by which many useful inventions and ingenious engineering arrangements are never heard of within its walls." In this you are mistaken; not only are papers by non-members received, but premiums are awarded for them by the institution, when their merits entitle them to such a distinction. Of 40 papers read at the general meetings of the institution in 1844, eight of them were by authors who were not members, and to one of these a premium was awarded. More recent instances of the same kind have occurred, as may be seen on referring to the forthcoming Reports and Minutes of Proceedings, now on the eve of publication. "Every member and associate has the privilege of introducing one stranger, to be present at the ordinary general meetings of the institution, on writing his name in a book provided for the purpose, or sending with him a card signed with his name" (section 11, rule 6); and the strangers so introduced are not only permitted, but are frequently invited, to take part in the discussions. Much advantage has resulted to the institution from these liberal arrangements, and there is every disposition on the part of the members to extend its utility in this, or in any other way that may best promote the object sought to be obtained in its establishment, and which may not be inconsistent with its constitution. That the privileges thus offered to the public have not been more extensively used, may, probably, be attributed to the nature of the subjects discussed, and to a misapprehension such as you have expressed; but which it is to be hoped this explanation will remove. As there are about 180 members and 270 associates in the United Kingdom, of whom gratuitous introductions may be readily obtained, any person desirous of attending the meetings may easily do so; and those who are disposed to favour the institution with a paper may be assured of at least a courteous reception by the secretary.

Neath, March 26. J. Richardson, M.I.C.E.

THE DAVY LAMP.

Sir.—During the last few days I have been engaged in a series of experiments upon the combustibility of gases, with the view, however, of *strengthening* an idea which had suggested itself to me, as to the *probable cause of explosions of fire-damp*. Thus much I may *for the present say*, that it is my candid opinion that ever since the introduction of the Davey lamp, *danger* has been its *constant companion*, which danger has been only *conditionally averted*, so that the term safety-lamp is evidently a *misnomer*, it being *only conditionally so*, and is just as *precarious* and *uncertain* as is the famous gun-cotton, of which so much has been said.

Think not, Sir, that I am ambitious, or desirous of robbing Sir Humphrey Davy of any of the laurels which encircle his brow, and which science and humanity have freely awarded him for his indefatigable and unwearied exertions, and the many brilliant discoveries he has made; for, although I am but a humble student in chemical philosophy, believe me, I have no other motive or interest to serve, beyond that of mere humanity, and putting a stop, if possible, to the occurrence of such frightful calamities as are from time to time recorded, and the new and, hitherto, undiscovered facts which I have arrived at (and that, too, in the presence of witnesses) are *such as cannot be disputed*, and at the present time, when Parliament is discussing the matter, may be of some importance in determining the question at issue—whether or not the Davy lamp is a safe and proper instrument to place in the hands of the miner.—J. Horsley: *Ryde, Isle of Wight, March* 24.

HORSLEY'S SAFETY-LAMP.

Sir,—Besides the advantage of a stronger and purer light, there is no question but that a lamp such as I have proposed is, in its strict sense, a *safety-lamp*, and its adoption, from the tenor of Mr. Evan Hopkins's remarks, would only be a *question of expense*, which, in my humble opinion, ought to have but very little weight in the matter, and compared with the *immense destruction* of property (not to mention the lives of the poor miners) consequent upon an explosion, would be *but a trifle*. Supposing it to be a question of expense—a very slight modification of the lamp—such, for instance, as dispensing with feeding tube and cock, and piercing the top plate of the lower chamber all over with holes—this would still constitute a *safer* and *preferable* lamp to the Davy, or any other I know of. The carburetted hydrogen, from its *inferior specific gravity*, would naturally seek its ascension towards the upper part of the mine, and thus be out of contact of flame, and, in carrying the lamp to and fro, the flame would not be disturbed by rapid currents of air, as with the Davy. Moreover, the lamp would always give the necessary indications of the presence of choke-damp, from its getting in and extinguishing the light.

Mr. Hopkins will perceive, from the construction of my lamp, that it is so thoroughly intact from drafts and currents of air, that ventilation, on the most extensive and powerful scale, would not in any way interfere with its use, nor incur the slightest danger, or chance, of explosion, like all other lamps are subject to. Larger lamps, fed with air in the way proposed, are admirably adapted to be used in and about the doors and courses, or where there is *most danger*.

I am still strongly impressed with the results of my experiments upon the combustibility of gases with wire gauze *under certain conditions*, as stated in a former letter; they seem to me to throw great light upon explosions with a Davy.—John Horsley: *Ryde, Isle of Wight, March* 27.

VENTILATION OF MINES.

Sir,—Your last Journal contains a communication from Dr. Dunn, in which he doubts the fact of "hoods or cowls, self-acting, over the upcast shaft, having been used in the collieries of the north of England for at least 20 years," as stated in a short paragraph in your Paper of the 17th inst. He states, "I have been in the pit districts of Durham, of Scotland, of Yorkshire, and of Derbyshire, and have never seen anything of the kind used;" nevertheless, such hoods have been, and perhaps are still, used in the collieries of Felling, in the county of Durham, at Gosforth, and I think at Carville and North Shields, in Northumberland. Not having been in that district for ten years, I am unable to speak with that certainty which is desirable, as to all the pits at which these cowls were used, or whether they are still employed; but Dr. Dunn may rest assured of the fact being as stated in the paragraph. I have no recollection of ever having seen cowls employed on downcast shafts; nor do I know of any instance in which the cowls on the upcast shaft have been tried and abandoned for failing in the object sought to be accomplished.—Your Correspondent.

SUNDERLAND DOCK COMPANY—TIDAL HARBOUR CONTRACT.

The DIRECTORS of the SUNDERLAND DOCK COMPANY are prepared to RECEIVE TENDERS for the EXECUTION of the WORKS—comprising the EXCAVATION and MASONRY of the TIDAL HARBOUR, or ENTRANCE to the DOCK, from the River Wear.

Plans, sections, and specification of the works, will be ready for inspection of contractors, at the Dock Offices, 12, Sunniside, Sunderland, on and after Friday, the 23d inst.

Sealed tenders, addressed to the directors, are requested to be delivered at the Dock Offices, aforesaid, on Thursday, the 5th of April next, not later than Eleven o'clock in the forenoon.—Security will be required for the due performance of the contract.

The directors do not bind themselves to accept the lowest tender; and, further, reserve the power of rejecting all tenders, if the same be not satisfactory.

Sunderland Dock Offices, March 21, 1849. GEORGE HUDSON, Chairman.

RIDER'S RAILWAY BRIDGE.

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CUNNINGHAM AND CARTER'S NEW SYSTEM OF RAILWAY PROPULSION.

—Railway Directors, Engineers, and the public generally, are invited to examine this system, which may be VIEWED on Mondays, Wednesdays, and Saturdays, from half-past Eleven to Three o'clock, at Ingram's Manufactory, 29, CITY-ROAD, near Finsbury-square.

The following is an estimate of the daily expense of working a double line of 50 miles long, during a period of 10 hours, with trains starting from each terminus every half hour—six trains always running on the line:—

Coals for five stationary engines, of 100-horse power each, at 5 lbs. per horse-power per hour each (say, 11 tons, at 14s. per ton)			£ 7	14 0
Wages—Enginemen, with relief, 10 at 6s.			£3	0 0
" Stokers	ditto	10 at 4s.	2	0 0
" Cleaners	ditto	10 at 2s. 6d.	1	5 0
" Drivers	ditto	12 at 5s.	3	0 0
" Guards	ditto	12 at 5s.	3	0 0
" Twenty men stationed on the line, 3s.			3	0 0=15 5 0
Repairs of engines, with depreciation, &c., at £200 per annum, each ×5=1000l. per annum—daily proportion			2	15 0
Contingencies			4	6 0
Total			£30	0 0

Forty trains, at 15s. per train=£30, being a fraction over 3½d. per train per mile, independent of a saving of one-third of the present expense in the maintenance of way.

PATENT RAILWAY AND OTHER CARRIAGE AXLES, MANUFACTURED BY THE PATENT SHAFT AND AXLE-TREE COMPANY,

BRUNSWICK IRON-WORKS, WEDNESBURY, STAFFORDSHIRE.

The Judicial Committee of the Privy Council having declared that the AXLES

MADE BY THE PATENT SHAFT AND AXLE-TREE COMPANY

had proved a PUBLIC BENEFIT in greatly conducing to the SAFETY of RAILWAY TRAVELLING, the exclusive right to manufacture has been extended for four years, on condition that the practice of charging a moderate price, proved hitherto to have been pursued, should be made imperative.

It was also proved that these Axles were in general use—upwards of 100,000 having been supplied to the English and Continental Railways, among whom are the London and North-Western, the Midland, and the Great Western; that they had withstood frequently severe tests applied by the engineers of these railways for the purpose of experiment, and others still more severe to which they were accidentally subjected in use. In one such instance a Patent Axle, 4½ inches in diameter, sustained the whole force of a heavy train going at the rate of 60 miles an hour, by which it was twisted and bent nearly double, without showing the least fracture.

The patent principle of manufacture causes the axles to be equally strong in all directions, for the "faggot" is made in a cylindrical form, by the external bars being rolled of such a section as to fit accurately around a centre bar. This faggot, however large, is perfectly welded throughout its whole length at one heat, avoiding the necessity of the frequent heating and hammering of the ordinary mode, by which much risk is run of imperfectly welding, burning, and otherwise injuring the iron.

The use of this principle, combined with experience gained of the quality and admixture of the iron and mode of treatment best adapted to resist the strain to which an axle is subjected, enables the Patent Shaft Company uniformly to supply safe axles.

In all cases where the use of the Patent Shaft Company's Axles are specified for, it is respectfully recommended that information be sent to the works; for, although every Patent Axle is stamped with the company's name, worthless axles, made at an expense little beyond that of common bar-iron, have, in many instances, been substituted.

It was given in evidence before the Privy Council, by Robert Stephenson, Esq., M.P., that having, in consequence of an accident, tested a number of such common axles, he found 46 out of 50 broke so easily as to be perfectly unfit for use; that he ordered them all to be removed, and that he has since recommended the Patent Axles to be used exclusively.

The trial of the Patent Shaft Company's Iron is solicited in cases where the power to resist a great strain is of importance. Evidence can be afforded from several railway engineers, of great economy having resulted from its use, in preventing the breakage to which their coupling chains were frequently previously subjected, particularly on the Midland Railway, where the heavy mineral traffic subjects these chains to unusual strains.

Iron manufactured on the patent principle is also recommended for coach and carriage axles, for, if not afterwards injured by the coachsmith, all risk of breakage will be avoided.

WRIGHTON'S PATENT ELASTIC SCREW COUPLING.

The PROPRIETORS of this simple and useful INVENTION invite the attention of Railway Companies to the ADVANTAGES and ECONOMY to be derived from its general adoption. The severe tests to which it has been subjected on the Eastern Union Railway fully demonstrate that its application to trucks or goods waggons, with *dead draw hooks and solid buffers*, produces as perfect and beneficial a result *as a complete set of spring traction and buffing apparatus*, and at about one-fourth the cost of the cheapest that can be supplied. Its application to passenger carriages will be found equally beneficial in giving additional ease and elasticity to a train, and preventing the injurious shocks at starting and stopping so much complained of. For further particulars apply to Mr. Parsons, Albert-place, Lewisham; or at the Patent Office, 166, Fleet-street.

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The Razor is made of the finest tempered steel, imparting a matchless smoothness and keenness to the edge; and the addition of the Guard causes the Razor to glide with safety over the face, removing the beard without the possibility of cutting the skin.

Guard Razors are fitted for right-hand and for left-hand shaving exclusively.

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A pair of the best Razors, elegantly finished, in a superior Russia box, is a valuable present for a nervous, paralysed, or short-sighted friend—price One Guinea; sent free for 1s. 6d. extra. The Razors are warranted, and will be exchanged if found imperfect. A single Razor, of the same quality and finish, in a neat roan case, sent free for 10s.

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THE WORTHING MINING COMPANY, NEAR ADELAIDE, SOUTH AUSTRALIA.

[*Provisionally Registered, pursuant to 7th and 8th Vic, cap.* 110.]

Capital £100,000, in 10,000 shares, of £10 each.—Deposit £2 per share.

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OFFICES—No. 76, CORNHILL.

This company is formed for the purpose of working a tract of about 800 acres of valuable mineral land in South Australia, known by the name of Worthing, situate about 16 miles south of the city of Adelaide, directly on the sea coast, with a natural creek, at the entrance of which craft can lode, and only 6 miles from Glenelg, where vessels of large burden discharge their cargoes; ores can, therefore, be shipped at an expense of only a few shillings per ton, thus affording a manifest and most important advantage in the cost of carriage.

Good copper ores having been found on the property, the proprietors were induced to send samples to England, and in 1847 a private association of 10 individuals was formed, who subscribed £1000 for the purpose of proving the mines, with the option of purchasing two-thirds of the property, the proprietors stipulating for a reservation of the remaining one-third. A mining captain, and five working miners were accordingly sent out, and the result was, that within 12 months of their arrival in Australia (and long before the expiration of the time allowed to the promoters to determine as to the purchase of the property), proof having been obtained of the existence of large and well-defined lodes of copper, the promoters decided to complete the purchase according to the terms of the agreement, and having since arranged for the purchase of the remaining third on advantageous terms, they now propose to form a company for the purpose of working the mines effectually, in the fullest confidence that the property will prove very valuable.

It is proposed to create 10,000 shares of £10 each, on 7000 of which a deposit of £2 per share shall be paid on complete registration of the company, the remainder to be appropriated, free of all payment, by way of deposit or otherwise, in the following manner—viz.; 1000 to the vendors of the estate, and 2000 to the 10 purchasers, who are also the promoters of the company, which they agree to receive as full compensation for the risk and trouble incurred in proving the mineral properties of the land.

The amount of the deposit will, after providing for the purchase of the whole of the property, the actual expense already incurred in proving it, and incidental expenses in forming the company, leave about £5000 working capital, and the mines having been already so far developed, it is not expected that more than this sum will be required to make them remunerative.

The property is an original grant from the Crown, and free of any claim for Royalties.

The reports of the mining captain, Mr. John Phillips, will be found explicit in practical detail, and the promoters have reason to believe that they do not at all exceed the real prospects of the mines, of which several competent authorities in the colony have given the most favourable opinions; and Mr. Alfred Phillips, the Australian Mining Company's captain, states:—"The lode at the Worthing is fully equal in size to any at the Reedy Creek" (Tungkillo Mine). On this gentleman's opinion, in addition to that of their own mining captain, the promoters, from their knowledge of his great caution, strict integrity, and practical knowledge, place the utmost reliance.

More than one ton of ore, collected from the different workings, the assays of which yield on an average about 30 per cent. of copper, may be seen at the company's offices, 76, Cornhill, where the mining captain's reports and plans of the property are open for inspection. The proximity of the land to the city of Adelaide will enhance its value yearly for building and agricultural purposes; a considerable portion has been for some years in cultivation, and it has a farm-house and other buildings upon it.

With a view to an identity of interests, and in order to render official remuneration contingent on the success of the undertaking, the directors (whose qualification will be the continued holding, by each, of not less than 100 shares) and the agents in Australia will not receive any salary until a dividend or dividends, amounting together to £5 per cent. on the paid capital, shall have been divided amongst the shareholders (the 3000 shares appropriated, as before-mentioned, for the purpose of dividends, being considered as paid up to the same extent as the other shares).

The erection of smelting works now in progress in the colony, will increase considerably the value of mining properties there.

The affairs of the Company will be conducted by not less than five, nor more than ten, directors in England (aided by agents in the colony), under a Deed of Settlement registered according to the provisions of the Act recently passed for regulating joint-stock companies, with liberty, if requisite, to apply for an Act of Parliament; and a general meeting of the shareholders will be held once a year, when a balance-sheet, and a statement of the Company's concerns will be produced for inspection.

Power will be taken in the deed to purchase or work on Royalty or other mineral land, and to increase the capital, should it hereafter be deemed advisable.

Not more than £1 per share will be called at any one time, of which three months' notice will be given, with an interval of not less than three months between each call.

Numerous applications for shares having been made on behalf of parties resident in the colony, the promoters think it right to state, that in the allotment of shares due provision will be made for the same.

SOURTON CONSOLS MINE.

In 5000 shares, not to exceed £1 each (if required).

CONDUCTED ON THE COST-BOOK SYSTEM.

This MINE is situate in the parish of SOURTON, between Tavistock and Okehampton, and was, in 1845, taken up by a company, under lease of 21 years, and at a dues of 1-15th, who worked it for some time; but, from improper management of their affairs, they became involved in debt, and the sett and materials, &c., were recently sold to clear off the then remaining liabilities.

The lode is a regular one, running a little north of west and south of east, as is usually the case with the copper veins of the neighbourhood, such as in the Great Wh. Friendship Mine, &c., and is has been cut in a pit on the back, and also in a shaft 10 fathoms deep—in each of which is a most kindly gossan, averaging 9 feet wide, and bearing a strong similarity to the gossan of the Devon Great Consols, and spots of copper have been seen in it, but at so shallow a level no discovery of importance can reasonably be expected.

The sett on course of the lode is about a mile in length, and to the west is Wheal Sarah, on the same lode, which produces grey copper ore, mixed with silver. To the east, about a mile, the granite commences; and there are other known lodes within the sett, which is altogether an extensive one, and which can easily be rendered more so on very moderate terms, by the indispensable addition of a sett to the north, in close contiguity with it. A reference, however, to Mr. Jehu Hitchins's subjoined report will give a better idea of the nature and capabilities of the sett, and whose recommendations it is proposed to carry out.

An engine-shaft has been sunk to a depth of 18 fathoms, at a distance north, calculated to cut the lode at 35 fathoms deep—the ground being a congenial blue killas, of an easy nature for working.

There is a sufficiency of water to work during most of the year; but, in case of necessity, an additional quantity can be brought in from the River Okement, on lease, at 1s. 6d. per diem, as long as it might be required; and the leats can be cleared up at a trifling expense.

The projectors of the proposed company having possessed themselves of the sett, together with the major part of the machinery and materials, comprising a new water-wheel of 40 feet diameter, and 2½ feet in breast, an excellent run of surface iron rods, 2 inches diameter, with pulleys and stands, travelling balance and shaft bobs, a whim and poppet heads, triangle, &c., 14 fathoms of 8-inch pumps and 7-inch workings, with windbore and clackdoor pieces, complete—altogether 19 fathoms, shaft, rods, &c.—offer the whole for £625, or 2s. 6d. per share, a sum greatly below their original cost.

The mine is held in much esteem in the neighbourhood, and a portion of the shares have already been applied for, but not of sufficient amount to defray the expenses of working it to the necessary extent; the present mode has, therefore, been adopted to obtain the co-operation of some influential London party.

All persons desirous of joining in this adventure are invited to send their own agents to inspect the mine.

As soon as three-quarters of the shares are allotted, a preliminary meeting will be held, for the purpose of settling the rules and appointing a committee of management, as well as other necessary agents.

A deposit of 5s. per share will be required to cover the cost of the sett, materials, &c., and to provide a fund for commencing the workings; and for the security of the subscribers, the same is to be paid to the credit of the company, into the bank of Messrs. Gill and Rundle, Tavistock, Devon, whose receipt shall entitle the holder to priority of entry in the cost-book. All surplus shall be returned, and no subscriber's liability shall extend beyond the £1 per share.

Every other particular can be obtained, and a list of the adventurers, together with plans of the mine, seen on application to Mr. George Trickett, sharebroker, Post-office Chambers, Plymouth; Mr. Jehu Hitchins, mining agent, Tavistock; Mr. Jehu Ball, Okehampton; and Mr. T. P. Thomas, sharebroker, No. 3, George-yard, Lombard-street, London—to either of whom applications for shares are requested to be made.

Prospectuses may also be had at the office of the *Mining Journal*, 26, Fleet-street.

Plymouth, March 12, 1849.

SOURTON CONSOLS. Tavistock, March 13, 1849.

SIR,—Having at the desire of several of your shareholders carefully inspected the sett and workings of this adventure, with a view to submit my report thereon, I beg to state as follows:—

1. The back of the lode, as seen in the shode shaft sunk thereon, presents the most promising appearance for copper I have for a very long time seen, being in effect a similar large and kindly gossan to the back of the Devon Great Consols lode, as first discovered in Wheal Maria.

2. The lode is a regular one, from 9 feet upwards wide, running about east and west, and underlying north about 3 feet in a fathom, with good walls, analagous to and parallel with the Wheal Friendship Mine lode, and is in a congenial killas stratum, bordering on the granite formation, distant about a mile to the eastward; and copper ore has been met with in the adit of the adjoining sett of Wh. Sarah, to the west, on the same vein.

3. There has been considerable useful work done, besides commencing an engine-shaft to take the lode at 35 fathoms below the surface—in my opinion an eligible point—18 fms. of which are already sunk. The water-wheel, flat-rods, pumps, and other appliances now in the mine are in very good working order, and of sufficient power to drain the mine to a great depth. Should the preliminary trial I now advise of sinking the shaft to intersect the lode, and driving—say 50 to 80 fathoms each way—east and west thereon, induce a more extended working, this, together with providing the necessary additional materials, as well as to pay the value of the present machinery, can be accomplished for about £2000, and occupy in time about 18 months.

In conclusion, I strenuously submit, that on no account should this kindly undertaking be abandoned until the trial I have advised be made—the more especially as so much has already been done, and which, without a further trial, can only be regarded as money thrown away. I, therefore, hope soon to see a resumption of operations actively carried out, and I have no doubt but that they will be crowned with success.

I remain, Sir, your most obedient servant,

To G. Marshall, Esq., Plymouth. JEHU HITCHINS.

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & CO.), SHAREBROKERS,

inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.—6, Bank Chambers, opposite Bank of England.

DAMP AND GASEOUS EXHALATIONS. SANATARY MEASURES.

All MEMBERS of BOARDS OF HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of fœtid refuse, tending to produce a miasmatic state of atmosphere. In situations so effected, the impervious quality of the ASPHALTE of SEYSSEL renders it the most perfect PAVEMENT or COVERING that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preveating the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts:—

"In 1839, I superintended the construction of a house of three stories on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of SEYSSEL ASPHALTE,* less than half an inch thick, over which coarse sand was spread.

Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ in. above the external surface of the soil, and only 19½ in., at the utmost, above that of the sheet of water.

The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

* This method has been adopted at the new Houses of Parliament.

Seyssel Asphalte Company, Stangate, London. I. FARRELL, Secretary.

KEATING'S COUGH LOZENGES—Under PATRONAGE OF ROYALTY AND THE AUTHORITY OF THE FACULTY.

COUGHS, ASTHMATIC AND CONSUMPTIVE COMPLAINTS, SHORTNESS OF BREATH, HOARSENESS, &c., EFFECTUALLY and SPEEDILY CURED by their use.

They have deservedly obtained the high patronage of their Majesties the King of Prussia and the King of Hanover—very many also of the Nobility and Clergy, and of the public generally, use them, under the recommendation of some of the most eminent of the faculty. Such medical testimony must be convincing of their efficacy.

Being made from the prescription of an eminent physician, they are confidently recommended to persons subject to the above complaints.

Allow the Lozenges to dissolve in the mouth gradually.

Prepared and sold, in boxes, 1s. 1½d., and tins, 2s. 9d., 4s. 6d., and 10s. 6d. each, by THOMAS KEATING, Chemist, &c., No. 79, ST, PAUL'S CHURCHYARD, LONDON.

COUGH CURED AFTER AN ATTACK OF INFLUENZA.

St. Ives, Hants, January 13, 1848.

SIR,—Having been attacked by the influenza, a short time ago, it left me with a very troublesome cough—was recommended to try your Lozenges, which, I am happy to say, completely cured me, after only taking half a box of them. I shall always feel the greatest pleasure and confidence in recommending your Lozenges to my friends.

I am, Sir, your most obedient servant,

Thomas Keating, Esq. THOS. E. DAVIS.

ON NERVOUS DEBILITY AND GENERATIVE DISEASES.

Just published, the fortieth thousand, an improved edition, revised and corrected, 120 pages, price 2s., in a sealed envelope, or forwarded, post-paid, by the Author, to any address, secure from observation, for 2s. 6d., in postage stamps, illustrated with numerous anatomical coloured engravings, &c.

MANHOOD: the CAUSES of its PREMATURE DECLINE,

with plain directions for its perfect restoration. A Medical Essay on those diseases of the Generative Organs, emanating from solitary and sedentary habits, indiscriminate excesses, the effects of climate, and infection, &c., addressed to the sufferer in youth, manhood, and old age; with practical remarks on marriage, the treatment and cure of nervous and mental debility, impotency, syphilis, and other urino genital diseases, by which even the most shattered constitution may be restored, and reach the full period of life allotted to man. The whole illustrated with numerous anatomical engravings on steel, in colour, explaining the various functions, secretions, and structures of the reproductive organs in health and disease; with instructions for private correspondence, cases, &c.—By J. L. CURTIS, consulting surgeon, 7, Frith-street, Soho-sq., London.

REVIEWS OF THE WORK.

We feel no hesitation in saying, that there is no member of society by whom the book will not be found useful—whether such person hold the relation of a parent, preceptor, or a clergyman.—*Sun*, Evening Paper.

J. L. Curtis, *On Manhood, and the Causes of its Premature Decline; with Plain Directions for its Perfect Restoration.*—[Strange, Paternoster-row.]—This is a book replete with valuable advice and information. It developes the fearful shoals on which a large proportion of human happiness is wrecked, and furnishes a chart by which they may be avoided and escaped. Fortunate for a country would it be, did its youth put into practice the philanthropic and scientific maxims here laid down. One cause of matrimonial misery might then be banished from our land, and the race of the enervate be succeeded by a renewal of the hardy vigorous spirits of the olden time.—*United Kingdom Magazine.*

Manhood: a medical work.—To the gay and thoughtless we trust this little work will serve as a beacon to warn them of the danger attendant upon the too rash indulgence of their passions—whilst to some it may serve as a monitor in the hour of temptation, and to the afflicted as a sure guide to health.—*Chronicle.*

Manhood: by J. L. Curtis and Co.—Their long experience and reputation in the treatment of these painful diseases is the patient's guarantee, and well deserves for the work its immense circulation.—*Era.*

Published by the author, and may be had at his residence; sold also by Strange, 21, Paternoster-row, London; Heywood, Oldham-street, Manchester; Howell, 16, Church-street, Liverpool; Robinson, 11, Greenside-street, Edinburgh; Campbell, chemist, 146, Argyle-street, Glasgow; Berry and Co., Capel-street, Dublin; and by all booksellers.

NEW MEDICAL WORK.—Dr. G. T. HUNTER on Diseases and Weakness of the Generative Organs,

containing a popular anatomical description of the parts—contagious diseases, gonorrhœa, syphilis, &c.—their prevention and cure; chronic diseases, including gleets, rheumatism, and a new method of treating strictures; spermatorrhœa and weakness; enervation of the physical and mental powers, by the practice of secret vice or excessive indulgence; matrimony, its obligations, expectations and disappointments; with a long Appendix of prescriptions and instructions. The whole compiled with a view to affording a safe guide for self-treatment, and containing a greater amount of genuine practical information than is to be found in any work of the kind hitherto published.—Sold at 115, Fleet-street; and sent free for 2s., in money or stamps, by J. Barkley, 37, Leicester-square, London.

Illustrated by 26 Anatomical Coloured Engravings on Steel, On Physical Disqualifications Generative Incapacity, and Impediments to Marriage. New Edition, enlarged to 196 pages.—Just published, price 2s. 6d., or by post, direct from the establishment, 3s. 6d. in postage stamps.

THE SILENT FRIEND: a medical work, on the infirmities and decay of the generative system, from excessive indulgence, infection, and the inordinate use of mercury, with remarks on marriage, and the means of obviating certain disqualifications, illustrated by 26 coloured engravings. By R. & L. PERRY & Co., consulting surgeons, 19, Berners-street, Oxford-street, London. Published by the authors; sold by Strange, 21, Paternoster-row; Hannay, 63, and Sanger, 150, Oxford-street; Starie, 23, Titchborne-street, Haymarket; and Gordon 146, Leadenhall-street.

PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. This section is illustrated by 17 coloured engravings.—PART THE FOURTH contains a prescription for the prevention of disease by a simple application, by which the danger of infection is obviated. This important part of the work should not escape the reader's notice.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

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usually acquired at an early period of life, which enervate the physical and mental powers, diminish and enfeeble the natural feelings, and exhaust the vital energies of Manhood; with Practical Observations on the Treatment of Nervous Debility, whether arising from these causes, close study, or the influence of tropical climates; local and constitutional weakness, syphilis, stricture, and all diseases and derangements resulting from indiscretion; with 40 coloured engravings, illustrating the Anatomy, Physiology, and Diseases of the Reproductive Organs, explaining their various structures, uses, and functions, and the injuries that are produced in them by solitary habits, excesses, and infection.

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JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT,

No. 54, THREADNEEDLE-STREET, LONDON,

Has to DISPOSE OF several valuable PATENT RIGHTS, some of which have been profitably worked.

A FREESTONE QUARRY, in North Wales, from which, on account of its quality, the small cost of getting and working it, and its proximity to the sea, London may be supplied at lower prices than those now ruling for much inferior stone, and a large profit left to the proprietor.

An IRONSTONE MINE, likewise in North Wales, worked open cast, close to a shipping port, and now in profitable work.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

J. BOYDELL has also at his DISPOSAL a RESIDENCE and LANDED PROPERTY in SHROPSHIRE, which is in a good neighbourhood, and which (a large portion of the land adjoining the house being of a most picturesque character, and well timbered, with a streamlet running through it) might be made a country residence for any nobleman or gentleman, such as but few in the kingdom would bear comparison with.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

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"STRUVE'S PATENT MINE VENTILATOR."

Quantity of air passed through a Mine almost unlimited, depending on size of apparatus.
No injury to pumps, tubbing, chains, ropes, or pitwork.
Goaves kept clear.
Not influenced by barometrical and thermometrical changes in the atmosphere, or by wind
Current of air undeviating.
LICENSES will be GRANTED on application to
Mr. WILLIAM PRICE STRUVE, C.E., Swansea.

The ventilator has been erected at the Eaglesbush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Penrose and Evans, Neath.

WARRANTED SAFETY FUSE.—W. BRUNTON & CO.

beg to inform Mine Agents, Contractors, and Merchants, that having completed their Machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE, of a very superior quality, at considerably reduced prices—viz.:

COMMON FUSE, 3d. per coil of 24 feet, and SUMP FUSE, for wet ground, at 5d. per coil.

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.

Penhellick Fuse Factory, Pool, Truro, Cornwall.

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IMPORTANT AND VALUABLE COPPER MINES TO

BE LET, BY PRIVATE CONTRACT, comprising the extensive SETTS formerly KNOWN AS

UNITED HILLS, SOUTH TOWAN, WHEAL CHARLES, and WHEAL FANCY,

belonging to the Duchy of Cornwall, in the parish of SAINT AGNES.—These mines having been surrendered to the Duchy by the late lessees, during the extreme pressure of the latter part of the year 1847, have since been placed in good working order, and are yielding large and increasing returns. They are now to be leased, at a moderate rate of dues, for a term of 21 years.

An arrangement can be made for putting the lessees of the Tywarnhaile Mines in possession of the adjoining setts of Wheal Sparrow, West Wheal Sparrow, Basset's United Hills, Wheal Clarence, and Wheal Lydia, the property of the representatives of the late John Basset, Esq.

Proposals will be received at the Duchy of Cornwall Office, Somerset House; and any further information may be obtained by application there, or to E. Taylor, Esq., Falmouth.

Duchy of Cornwall, Somerset House, Feb. 20, 1849.

CARDIGANSHIRE—IMPORTANT SALE OF VALUABLE MINERAL PROPERTY AND MACHINERY.

TO BE SOLD, BY PRIVATE CONTRACT, the CWM

SEBON SILVER-LEAD MINE, CARDIGANSHIRE, together with the whole of the valuable MACHINERY belonging thereto, unequalled by any other in the county.

The mine is situated in a valley 7 miles from the shipping port of Aberystwith, adjoining to and on the same vein as the once celebrated Cwmsymlog Mine, formerly worked by Sir Hugh Middleton with so much success.

Very valuable discoveries have been recently made in driving under the mountain, towards the Cwmsymlog Mine, with a cover of (or unwrought ground) 300 yards high; some of the most promising and productive mines in the neighbourhood are contiguous to it and parallel veins.

This mine produces more silver to the ton of lead ore than any other in the neighbourhood; and with a small capital, invested for the purpose of sinking shafts and driving levels, to open and lengthen it, promises to make one of the richest in the locality.

Such an opportunity to a spirited company rarely presents itself, for no expense has been spared in setting up efficient machinery, and obtaining water for the effectual working of the mine throughout the year.

The MACHINERY comprises a 60-feet pumping-wheel, capable of putting the mine more than twice its present depth. A very strong and powerful drawing machine, manufactured by Messrs. Sandys, Carne, and Vivian, of Cornwall, on the most improved construction. A crushing machine, stamps, jigging machines, and every other machinery requisite for washing and making merchantable the ores, and all in working order.

Further particulars may be obtained on application to Mr. C. M. Thomson, manager of the North and South Wales Bank, Aberystwith; Mr. Thomas Jones, jun., merchant, Aberystwith; or to Lewis Pugh, Esq., Dolgelly, North Wales.

Dated March 26, 1849.

ALBION PLATE GLASS COMPANY.

INCORPORATED PURSUANT TO ACT OF PARLIAMENT.

Capital £50,000, in 2000 shares, of £25 each, with power to increase to £150,000.
Deposit £2 2s. 6d. per share.

TRUSTEES.

MATTHEW FORSTER, Esq., M.P., New City Chambers.
Captain CHARLES EDWARD MANGLES, Guildford.
GEORGE FREDERICK YOUNG, Esq., Limehouse.

DIRECTORS.

FREDERICK YOUNG, Esq., Bromley, Middlesex, Chairman.
EDWARD SMITH, Esq., Old Broad-street.
WILLIAM MACDONALD, Esq., Savage Gardens.
JOHN HOPPE, Esq., Bishopsgate-street-without.
JOHN ROBERTS, Esq., Crosby-square.
JOHN MORRIS, Esq., East India-road.

AUDITORS.

Samuel Sharp, Esq., Albury, near Guildford; Joseph Causton, Esq., Eastcheap.

BANKERS.

London Joint-Stock Bank.

SOLICITORS.

Messrs. Shearman and Slater, 23, Great Tower-street.

MANAGER.

Mr. Henry Howard, Plaistow, Essex.

Within the last 12 years, the sales of plate glass have increased from 7000 feet to 70,000 feet per week. The price has been reduced 60 per cent. in the last 20 years, whilst the increase in consumption has amounted to 1400 per cent.

Sir Robert Peel, prior to abolishing the Glass Duties, in 1845, declared in Parliament, "If you give full and unobstructed freedom to the capital and enterprise of this country, with its peculiar advantages of materials, the command of alkali and coal, my belief is, you will supply almost the whole world."—*Times*, Feb. 15, 1845.

This opinion is now confirmed by experience, which has proved that the much dreaded foreigner is unable to compete with the British manufacturer in this market, and must, therefore, in all the great markets of the world, give way to the superiority of British enterprise. And the successful results of Sir Robert Peel's measure are clearly shown by the greatly reduced price to the public, the increased and increasing demand, and the large profit realised by the English manufacturer.

The present company not interfering with existing establishments, but copying their excellencies, and carefully avoiding their defects, will, by a superior application of machinery, and the adoption of important scientific improvements, be enabled, not only to construct works at about half the cost of similar undertakings, but also to carry them on at decreased permanent charge.

Whilst the increased consumption of Plate Glass in the home trade has been enormous, the last annual Parliamentary Return on Glass, No. 305, May 5, 1848, exhibits the increased Exports of 1847 over those of 1845 as being:—

In Looking Glasses ..... 49 per cent.
In Plate Glass ..... 110 „

The locality of London having been proved to be peculiarly favourable to this manufacture, the directors have agreed for the purchase of an eligible plot of freehold land, which, being bounded by the River Thames and North Woolwich Railway, commands both those desirable means of communication, in addition to a good ordinary road. Other important arrangements are in active progress with eminent contractors, whereby the works may be completed, so as to finish glass for the market, within 12 months from the commencement. The plans, which have been laid down from long practical experience, are so arranged, that, by a judicious concentration of power in labour and machinery, the operations of the company may, on the site chosen, be hereafter carried out to an extent greater than that of any other establishment.

This undertaking, which, as an investment, presents unusually large and permanent advantages, was brought before the public in the panic of 1847, and during that eventful crisis the *bonâ fide* applications were for more than half the required capital.

In order to enable the directors to avail themselves of the present favourable opportunity, arising from the season of the year, and the low prices of building materials and machinery, it has been determined to close the subscription list within a brief period.

Applications to be made to the directors, at the company's offices.

Offices, 4, Railway-place, Fenchurch-street, City. H. SHEARMAN, Secretary.

TO PUBLIC COMPANIES, MERCHANTS, MINERS, &c.

—EVERY DESCRIPTION of ACCOUNT BOOKS requisite for the COUNTING-HOUSE or BOARD-ROOM, manufactured to any pattern and ruling, hot-pressed, and bound in the most durable manner (paged in type, without additional cost), on a scale of charges reduced to meet the times.—WRITING PAPERS, ENVELOPES, and STATIONERY, of the very best description, on the like reduced scale. Lists on application.

F. W. RALPH, COMMERCIAL STATIONER,
36, *THROGMORTON-STREET, BANK, LONDON.*

PATENT IMPROVEMENTS IN CHRONOMETERS,

WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1806 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE,

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

COMBINED VAPOUR ENGINE COMPANY.

PROVISIONALLY REGISTERED.

Capital £250,000, in 12,500 shares, of £20 each.
Deposit £2 per share—2s. to be paid upon allotment, and the remainder of the deposit upon complete registration.

TRUSTEES.

JOSEPH THOMPSON, Esq., John-street, Bedford-row.
THOMAS VARDON, Esq., Esher, Surrey.

DIRECTORS.

C. OGLE, Esq., Withdean House, near Brighton.
GEORGE CLARKE, Esq., Hans-place, Sloane-street.
JOHN WEBSTER, Esq., Blackburn House, Southgate, Middlesex.
D. AUSTIN, Esq., Paragon, Worthing.

AUDITORS.

Thomas Young M'Christie, Esq., Great James-street, Bedford-row.
Charles Brockman, Esq., St. John's-place, Battersea-rise.

BANKERS.

The Commercial Bank of London.

CONSULTING ENGINEER.

Mons. Du Trembley de Lyons, C.E., &c. &c.

ACTING ENGINEER.

Mr. John Harris, London-bridge Station.

SOLICITORS.

Messrs. Richardson and Talbot, 47, Bedford-row.

SECRETARY—B. Talbot, Esq.

Applications for shares may be made to the secretary, at the offices of the company, 47, Bedford-row, where prospectuses, with the form of application for shares, and every information respecting the company may be obtained, as well as cards of admission to view the engine.

This company has been formed for the purpose of carrying out a patented invention, known as the "Combined Vapour Engine."

The invention is applicable to all purposes for which steam-power is employed, and may be adapted to existing steam-engines, at a comparatively trifling cost.

By the application of this invention to the ordinary steam-engine, the power is more than doubled, without any increase in the consumption of fuel; and, consequently, a saving of at least one-half in the cost of working the engine, as well as in the space occupied, is effected.

The Combined Vapour Engine is exhibited in action every Friday, from One to Three.

BORNEO.

EASTERN ARCHIPELAGO COMPANY.

INCORPORATED BY ROYAL CHARTER.

DIRECTORS.

JOHN MACGREGOR, Esq., M.P. (late secretary of the Board of Trade), Chairman.
Capt. C. R. DRINKWATER BETHUNE, R.N., C.B., Deputy-Chairman.
Sir JOHN N. R. CAMPBELL, K.C.H., K.L.S. (late deputy chairman of the Peninsular and Oriental Steam Navigation Company).
Lieut.-Colonel the Hon. GEORGE T. KEPPEL, M.P.
H. HAMILTON LINDSAY, Esq. (late of the Hon. East India Company's China Service).
ALEXANDER NAIRNE, Esq. (director of the Peninsular and Oriental Steam Navigation Company).
Sir JOHN PIRIE, Bart. (deputy-chairman of the Peninsular and Oriental Steam Navigation Company).
Colonel RAWDON, M.P.
HENRY WISE, Esq. (late of the Hon. East India Company's Maritime Service).

AUDITORS.

John Hampden Gladstanes, Esq. (firm of Messrs. Gladstanes and Co.)
James Mackillop, Esq. (firm of Messrs. Palmers, Mackillop, Dent, and Co.)

SOLICITOR—Mr. E. G. Flight.

SECRETARY—Mr. W. Woolley.

BANKERS—Messrs. Glyn, Halifax, Mills, and Co., London.

The objects of this company are, to carry on mining, agricultural, and trading operations in the Eastern Archipelago, and the acquiring and disposing of lands in the island of Labuan, and the parts adjacent (Borneo), a region abounding in mineral wealth, most fertile in all the valuable tropical productions, and very happily situated for the purposes of commerce.

Applications for detailed prospectuses, and for the remaining shares, may be addressed to Messrs. Carden and Whitehead, No. 2, Royal Exchange Buildings; Messrs. Gladstanes and Co., No. 3, White Lion Court, Cornhill; Messrs. Pritchard and Dale, Liverpool; A. Krauss, Esq., Manchester; R. H. Stevenson, Esq., Glasgow; Messrs. Ridedale and Myers, Leeds; T. F. Dickinson and Co., Newcastle-on-Tyne; William Bell, Esq., and Messrs. J. Wilson Pillans and Co., Edinburgh; B. J. Wilson, Esq., Dublin; John Macgregor, Esq., M.P., Chairman, Athenæum Club, Pall Mall; Henry Wise, Esq., Managing Director; or Mr. WOOLLEY, Secretary, at the offices of the company, No. 34, Cornhill.

DUISBURG IRON-WORKS AND MINES, in

WESTPHALIA, CLOSE TO THE RHINE.

MANAGED IN ENGLAND ON THE COST-BOOK PRINCIPLE.

The demand of the North-Western States of the Zollverein for pig-iron smelted with coke requires an annual importation which, in 1846, exceeded 100,000 tons of that metal. Its present average current price, in Westphalia, inclusive of duty, is, per ton	£3	16	8
Being possessed of extensive mines of iron ore, *entirely paid for*, the Duisburg Company proposes to turn out this year only 150 tons of pig-iron, made with coke, per week, which, owing to circumstances peculiarly favourable as to minerals, fuel, and carriage, can be produced at a cost, per ton, not exceeding	3	0	0
Thus leaving for division among the holders of the 3000 shares, in which the capital stock is divided, a *net profit*, per ton, of	£3	16	8

Or £9 per share of £15.

Every further information to be obtained, and specimens inspected, at the company's offices in London, 29, Moorgate-street.

DUISBURG IRON-WORKS AND MINES.

COMPANY'S OFFICES, 28, MOORGATE-STREET, CITY.

Notice is hereby given, that NO APPLICATIONS FOR SHARES will be RECEIVED after SATURDAY, the 14th April next.—March 31, 1849.

HOLNE PARK TIN AND COPPER MINE.

(WORKED ON THE COST-BOOK SYSTEM.)

Capital £7680, in 1536 shares, of £5 each.—Deposit £2 per share.

OFFICES—18, ADAM-STREET, ADELPHI.

This valuable MINERAL PROPERTY is situate in the parish of HOLNE, in the county of DEVON, on the banks of the River Dart, and held under an agreement for lease of 21 years, at 1-12th dues.

This mine is a new discovery, and now at work to the south of the Whiddon, Ashburton United, and West Beam Tin and Copper Mines, about 3 miles; and to the north-east of Coombe Tin Mine, 1 mile. It is about 2 miles west of the town of Ashburton, and 8 miles from Totness, through which place the South Devon Railway passes to Plymouth, by means of which the ore can be conveyed to port for exportation, at a very moderate expense. The River Dart being navigable as far up as Totness, also affords an easy and cheap mode for exportation.

The sett is in a beautiful killas, or clay-slate strata; there are four lodes now worked on, and there are several large lodes of tin and copper traversing the sett—all composed of gossan, soft spar, prian, mundic, carbonate of lime, and large rocks of copper ore, of rich quality (from 14 to 26 per cent.)

To the west of this sett the lodes form a junction with the Dartmoor granite range, where the great deposits, both of tin and copper, &c., have been discovered, making the largest and most productive mines in Cornwall and Devon.

The River Dart, running at the foot of the hill, can be made available (with a small outlay) for all the purposes of the mine, thereby superseding the necessity for steam-power, and causing a great saving in the working of the mine.

The reports of the various mining captains who have lately inspected the sett, speak in the most flattering and encouraging terms.

These reports are set out at length in the prospectus, which can be obtained at the offices, where also every other information will be given, together with the form of application for shares, by applying personally, or by letter, addressed to the secretary, 18, Adam-street, Adelphi, London.—Copies of the prospectus can also be had at the office of the *Mining Journal*, 26, Fleet-street.

KENT AND SUSSEX

INDURATED AND IMPERVIOUS STONE COMPANY.

Capital—£20,000, in 2000 shares, of £10 each.
[*Provisionally Registered.*]
N.B.—ORDERS EXECUTED FOR PAVING, &c.

Apply for prospectuses, &c., to Mr. William Hutchison, Calverley Quarry, Tunbridge Wells; or to Messrs. Hutchison, Wilford, and Co., East Temple Chambers, 2, Whitefriars-street, Fleet-street, London.

PATENT ALKALI COMPANY'S METALLIC PAINTS.

COLOURS—BLACK AND PURPLE BROWN.

These paints (the products of a patent process), possess peculiar and valuable properties not otherwise attainable, and are perfectly free from the deleterious qualities of white-lead. They surpass all other paints ever yet discovered in point of DURABILITY and ECONOMY; two coats being more than equal to three of any other description. From their chemical composition, they are pre-eminently adapted for covering IRON; also STUCCOED or BRICK BUILDINGS, and every kind of WOOD WORK. The process by which the base of these paints is produced, makes it impossible that any change should take place in their composition from atmospheric influence. Their identity with iron secures them from galvanic action, so fatal to the durability of lead and other paints on iron work.

They have been exposed on SHIPPING to the action of sea water, and of the sulphuretted hydrogen so prevalent in sea ports and tidal harbours, for more than THREE YEARS, without change.

Their CHEAPNESS and STRENGTH render them peculiarly eligible for IRON BRIDGES, ROOFS, and RAILINGS, FARM BUILDINGS, and SHIPPING.

The attention of the SHIPPING INTEREST is particularly directed to the company's patent compound metallic BLACK PAINT (the only metallic black paint of any value in existence), which will be found to act as a most valuable preservative when applied to iron steam-boats, and wooden vessels. It also forms a beautiful covering for STOVES, and is susceptible of a high polish.

Several imitations of the Patent Alkali Company's paint having been sold under the name of IRON PAINT, the directors of the company deem it necessary to caution the public that no other iron paint is genuine, or partakes in any degree whatever of the properties of the company's paints, the base of the latter being obtained solely by a series of processes, which are protected by the company's patents, and to which alone is owing their extraordinary body, or covering power. Numerous and most satisfactory testimonials have been forwarded to the company's offices, copies of which may be had of the secretary or of the agents.

Price, by the ton, £25, delivered in London or Liverpool, exclusive of packages.

To be obtained exclusively on application to the secretary, Mr. J. A. West, at the offices of the company, 20, Fenchurch-street, London; or of any of the undermentioned parties, who are the only agents of the company:—

Messrs. Evans Brothers, London; Messrs. Matthews and Leonard, Bristol; Messrs. Evans and Hodgson, Exeter; Messrs. Clarke and Fill, Yarmouth, Norfolk; Mr. D. Sandeman, Glasgow; Mr. G. Sandeman, Dundee; Mr. R. Newby, Bradford, Yorkshire, Mr. R. S. Farr, Edinburgh; Mr. W. Bailey, Wolverhampton; Messrs. Vint and Co; Newcastle-on-Tyne, and Sunderland; Mr. Robert Oxland, Plymouth; Mr. Joshua Fox, Tregedna, near Falmouth.

TO ENGINEERS AND BOILER MAKERS.—The

BIRMINGHAM PATENT IRON TUBE COMPANY

MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam, and other purposes. All sorts of IRON GAS FITTINGS.

WORKS—Smethwick, near Birmingham.

LONDON WAREHOUSE—No. 6, Upper Thames-street.

THE STEAM-ENGINE.—W. BROTHERTON & CO. beg

to CALL the ATTENTION of ALL PARTIES EMPLOYING STEAM-POWER to their PATENT PURIFIED OIL for the ECONOMICAL WORKING of the STEAM-ENGINE and other MACHINERY.

The adoption of its use effects a saving of 25 per cent. on the quantity required for lubrication over any other oil; and its properties are such as to greatly preserve the bearings of machinery in general. A trial will prove the fact.

W. BROTHERTON & CO.,
PATENT OIL FACTORY, HUNGERFORD WHARF, CHARING-CROSS, LONDON.

ECONOMICAL STEAM-ENGINE—Surpassing the Cornish.

CRADDOCK'S PATENT DOUBLE CYLINDER HIGH-PRESSURE EXPANSIVE AND CONDENSING ENGINE,

Alike ADAPTED FOR MARINE, LOCOMOTIVE, AND STATIONARY PURPOSES

BOILER.—Tubular, free from deposit, and perfectly safe from explosion.
ENGINE.—Not half the weight or bulk of ordinary engines.
FUEL.—Not half that required by the best engines of the common kind.
WATER.—Under one gallon per horse-power per day of 10 hours, for all purposes, with air as the medium of condensation.

These engines are erected at a comparatively trifling expense, and are easily worked.

FOR SALE.

TWO 40-horse power ENGINES, suited to condense either by air or water.			
ONE 25-horse power	ditto	ditto	ditto
TWO 20-horse power	ditto	ditto	ditto
ONE 14-horse power	ditto	ditto	ditto

A PAIR of OSCILLATING MARINE ENGINES, of 10-horse power.

PRICE.—£20 per horse-power.

These engines are quite new, with boiler, condenser, and regulating damper—all got up in the best and simplest manner. They are much simpler, and almost beyond comparison more compact than the Cornish engine, also more safe and economical than even those engines, yet the price of the Cornish is nearly double that at which these are offered.—Parties wanting engines will find in the above good bargains.

Apply to Thomas Craddock and Co., engineers, 36 and 38, Broad-street, Birmingham, where engines on the above principle may be seen at work.

Also ON SALE, THREE 4-horse HIGH-PRESSURE ENGINES, simply arranged, and well got up.—Price £12 per horse-power.

CWMBRAIN PATENT IRON REFINERY.—The

PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS,

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from he worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular

MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 122, Leadenhall-street, London; and 57, High-street, Southampton.

OVERLAND GOODS AND PARCELS FOR INDIA, ADEN,

CEYLON, MADRAS, CALCUTTA, SINGAPORE, CHINA, and BOMBAY, should be DELIVERED not later than Noon on the 17th of each month; and if forwarded on the 18th, will be subject to an extra charge.

When the 18th falls on a Sunday, no package will be received after the 17th, and cases must not exceed 70 lbs. in weight, and when measuring over one cubic foot, they must be strong, and well hooped at the ends.

Peninsular and Oriental Steam Navigation Company's Offices,
122, Leadenhall-street, London, Feb. 23, 1849.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

PATENT CORK FIBRE—For STUFFING MATTRESSES,

SQUABS, BOAT CUSHIONS, BOLSTERS, PILLOWS, &c.

FOR THE PRESERVATION OF LIFE FROM DROWNING AT SEA.

The floating quality or buoyancy of cork is known by everybody; it is needless to speak about it in an advertisement. The application of that quality in an available form at sea has never yet been achieved, and several years of the patentee's life have been spent in seeking the successful solution of that problem.

Mattresses and bolsters, sofa-cushions, and squabs, all articles of indispensable necessity in the cabin, when stuffed with cork fibre, in lieu of the ordinary material, became life-preservers in the hour of danger, while they subserve all their usual purposes at other times.

The efficiency of these life preservers is indisputable, as they form articles of daily use, are always at hand, and ready for service, in the event of any calamity from accident, shipwreck, or fire. Moreover, they take up no additional space.

The mattresses and bedding do not depend upon a waterproof or any particular covering—nor upon the exclusion of water—nor upon inflation by air—their buoyancy is not, in the slightest degree, impaired by saturation, leakage, perforation, or damage of any description—in fact, a mattress torn in several pieces will still float.

Steamboat and ship owners, members of yacht clubs, passengers, emigrants,—all must be interested in an invention which places human life beyond the risks incident to the sea. Even the use of boats may be without peril, when supplied with cushions stuffed with the cork fibre.

But the advantages of the cork fibre are numerous for general application as stuffing:

1. For cleanliness it is unsurpassed, as it affords no support for insect life.
2. It is a non-conductor of heat, and therefore eminently adapted for invalids.
3. It is a non-absorbent. No moisture is retained, but all fluids instantly permeate.
4. For India, and the tropics generally, it is invaluable. Every one familiar with tropical grievances, places foremost amongst them the ravages of the moth and other insects of like destructive habits. Beds, sofa mattresses, stools, saddles, horse-collars, carriage linings—all perish in a comparatively short period of time before these devastating vermin. Cork is a natural repellent of insect life, as the oils which promote its development and sustenance are absent.
5. Moreover, the best medical authorities agree that cork possesses properties which are alike preventive and curative of certain affections to which the human frame is subject, such as rheumatism, cramp, &c.

For all these reasons, the patent cork fibre is peculiarly adapted for the mattresses of barracks, unions, hospitals, lunatic asylums, orphan schools, and, indeed, for all institutions where the first requisites are—health and cleanliness.

To offices under canvas in campaign the cork fibre mattress will be invaluable, as it will preserve them from the effects of sleeping upon damp bedding, to which they owe so much of their ill-health in after life.

The mattresses, and all other manufactured articles, may be obtained of Messrs. Taylor and Sons, steam-ship and yacht fitters, Great Dover-street, Borough; and of Messrs. Silver and Co., general outfitters, Cornhill; also of most other respectable outfitters, upholsterers, and bedding manufacturers.

The fibre can only be had at the company's works, City Saw-Mills, Wenlock Basin Regent's Canal, City-road.

"The recent lamentable loss of 170 lives on the coast of Essex (*Floridian* emigrant ship), would not have happened, had the unfortunate vessel which was wrecked had mattresses of this material on board.—*Times*, March 7.

IMPORTANT TO MINE OWNERS, &c.

GUTTA PERCHA COMPANY—PATENTEES,

CITY-ROAD, LONDON.

The GUTTA PERCHA COMPANY beg to bring under the notice of Mine Owners, Manufacturers, &c., the GREAT SAVING, both of time and expense, which is effected by the use of the GUTTA PERCHA PUMP BUCKETS and VALVES. These Buckets may be had of any size or thickness, *without any seam or raised joint*. They are unaffected by acids, alkalies, &c. Cold water will never soften them, and they are, consequently, much more durable than leather, and also cheaper. The most gratifying testimonials have been received from millowners, who have had these Buckets in operation for several months past, without the slightest repairs being required.

GUTTA PERCHA TUBING

Being so remarkable a CONDUCTOR of SOUND, is now being extensively applied for CONVEYING MESSAGES from ONE BUILDING, or PLACE, to ANOTHER. If a Tubing of this material, 1 inch diameter, be carried from the mouth of a mine, or pit, down the shaft, to various parts of the mine (no matter whether a quarter or half a mile distant), an instant communication may be established by means of the whistle, on Whishaw's principle, and a conversation carried on as distinctly as though the parties were but a few feet from each other. When these Tubes are in general use, they will greatly lessen the *loss of life in mines*.

GUTTA PERCHA DRIVING BANDS

Continue to secure a continually increasing demand; they can be had of any size or length. Their durability and strength, permanent contractility and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalis, or water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior for almost all working purposes, and decidedly economical.

GUTTA PERCHA Soles for Boots and Shoes, Bowls, Buckets, Picture Frames, Brackets, Mouldings, Surgical Instruments, Vases, Cups, Inkstands, Balls, &c., may be had at the Company's Works, Wharf-road, City-road, London, or of any of their wholesale dealers n town or country.

London: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors), at their offices, No. 26, FLEET-STREET, where all communications are requested to be addressed. [*March* 31, 1849.